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ABSTRACT

A research agenda has been at the core of "Sesame Street" and other Children's Television Workshop (CTW) educational projects since inception. This collection of presentations, from a symposium honoring the twentieth anniversary of Sesame Street's debut on national television, addresses research's role in the series, describing how research is used during preliminary development of shows, continues during production, and allows measurement of a new program's success as a teaching tool. The collection's contents are: (1) "Prologue" (David Britt); (2) "Welcome" (Gregory R. Anrig); (3) "Beginnings" (Gerald Lesser); (4) "Creating CTW's Research Arm" (Edward L. Palmer); (5) "The First Evaluation" (Samuel Ball); (6) "Subsequent Research" (Gerald Lesser); (7) "Cognitive Effects of Sesame Street" (Daniel R. Anderson); (8) "Social and Emotional Effects of Sesame Street" (Aimee Dorr); (9) "Message Design Issues in Sesame Street" (Milton Chen); (10) "Current Research" (Keith Mielke); (11) "Longitudinal Study of Sesame Street Effects, Part I" (Aletha Huston); (12) "Longitudinal Effects of Sesame Street Effects, Part II" (John Wright); (13) "Educational Effects of Sesame Street Home Videos" (Mabel Rice); (14) "Continuing Evolution of the Sesame Street Curriculum: The Role of Formative Evaluation" (Valeria Lovelace); (15) "Other Current Studies" (Keith Mielke); (16) "International Research" (Gerald Lesser); (17) "Introductory Remarks" (Lutrelle Horne); (18) "A Review of Research on International Coproductions of Sesame Street" (Peter Levelt); (19) "Research on 'Iftah Ya Simsim', the Arabic Coproduction" (Abdelkader Ezzaki); (20) "Research on 'Rua Sesamo', the Portuguese Coproduction" (Maria Emilia Brederode); (21) "Research on 'Susam Sokagi', the Turkish Coproduction" (Nail Sahin); (22) "What Lies Ahead" (David Britt); (23) "A Walk down Sesame Street" (Lewis Freedman); (24) "Challenges Met and To Be Met" (Lloyd Morrisett); (25) "Closing" (David Britt); (26) "20 Down, at Least 20 To Go" (Joan Ganz Cooney); and (27) "Epilogue" (Gregory R. Anrig). Two Appendices list symposium special awards and participants. (EV)

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Because the papers delivered at the *Sesame Street* 20th Anniversary Research Symposium are reproduced in this report from transcripts or audiotapes, they include no footnotes or formal references. However, Children's Television Workshop recently published the *Sesame Street Research Bibliography*, and most of the topics and studies addressed here are cited in that document. Copies of the bibliography are available on request.

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SESAME STREET RESEARCH

A 20TH ANNIVERSARY SYMPOSIUM

Presented by
Children's Television Workshop
at the
Henry Chauncey Conference Center
Educational Testing Service
November 4, 1989

CHILDREN'S TELEVISION WORKSHOP
One Lincoln Plaza
New York, New York 10023

EDUCATIONAL TESTING SERVICE
Rosedale Road
Princeton, New Jersey 08541

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PROLOGUE

*David Britt, CTW President and Chief
Operating Officer*

As we celebrated the 20th anniversary of *Sesame Street*'s debut on national public television, we thought it fitting to mark as well the 20th year of collaboration between Children's Television Workshop and the world of educational research. Research has been at the core of *Sesame Street* and, in fact, all CTW educational projects. Research starts at the beginning, informing the very idea of a particular series. Research is there during preliminary development of shows, and continues during production, helping us create programs that children both like and understand. Finally, research allows us to measure a new program's success as a teaching tool, and to demonstrate with evidence the role that television can play in children's education.

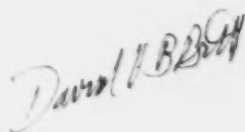
It was particularly fitting that we honored this collaboration at the headquarters of Educational Testing Service, for its contribution to *Sesame Street* has been invaluable. Once *Sesame Street* went on the air, in November 1969, we

wanted to find out whether children liked and understood the series — and most important, whether they learned from it. While the Workshop held its collective breath, ETS carried out a study that is a landmark in the annals of children and television. The news came back quickly: Children *were* watching — by the millions. What's more, children *were* learning; they *were* starting school better prepared; the CTW model *did* result in effective programming.

The alliance of television producers, researchers, and content specialists is not an easy one. Joan Ganz Cooney, founder, chairman & chief executive officer of the Workshop, and originator of *Sesame Street*, has described this unique partnership as "a marriage worth keeping intact — for the sake of the children." This cooperation requires real work on the part of all partners. But the effort pays off: It results in successful, educationally effective programming.

Today, the role of research is more critical and more complex than ever, as the Workshop confronts a changing world. In today's more crowded and sophisticated media environment, old questions assume new complexities: How well does *Sesame Street* work now, and why? Since every American preschooler is bound to be affected to some degree by *Sesame Street*, how do we measure the relative impact of the series in the 1990s? As children watch *Sesame Street* less frequently at home and more often in day-care programs and other institutions, how can we discover new ways to exploit television's strengths in the cause of education?

To address these challenges, we will count on the Workshop's partnership with the world of educational research, and with ETS in particular, to help us experiment with new formats, new methods, and new approaches. We are very proud of the valuable contributions that research's support has enabled us to make to children's education.



David Britt

President and Chief Operating Officer
Children's Television Workshop

Gregory R. Anrig

Welcome

ETS President Gregory R. Anrig opened the symposium by welcoming the participants. Alluding to the current reform movement in education, he said that reform actually "began 20 years ago with a dream called *Sesame Street*." He credited the program's success in part to the fact that, "unlike most reforms, it has had a solid base in research and has continued to benefit from research throughout its 20-year life."



After sharing his own fond memories of *Sesame Street* as a parent, an educator, and a former Massachusetts commissioner of education, Anrig said, "We gather today to celebrate, to honor those here who dreamed that dream and those here who made that dream become a reality — not only a reality for the children of the United States but for the children of the world. . . . Happy birthday to *Sesame Street* and to all of you who made it possible." Then he introduced Gerry Lesser, Bigelow

Professor of Education and Developmental Psychology at Harvard's Laboratory of Human Development, noting his key role in assuring that *Sesame Street* was firmly rooted in research. Lesser served as moderator for the first session.

ETS President Gregory R. Anrig



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BEGINNINGS

Keynote speaker Samuel Ball, who directed ETS's landmark studies of Sesame Street, flew from Australia to address the symposium.

Gerald Lesser, Moderator

As CTW's first academic adviser and chair of its Research Advisory Committee, Lesser traces his relationship with *Sesame Street* from its earliest days all the way to today. He began the morning's first session by saying:

"We're here to mark the end of the 20th broadcasting year of *Sesame Street*, to enjoy the good fortune that we've had to be on the air this long, and to look forward to our next 20 years. We felt that a good way to end this 20th year would be to get together to discuss at least some of what we've learned so far and to propose some ideas of what we hope to learn in future seasons about the nature of our audience, about how best to use television for its educational benefits, about the content and the curriculum we've taught — and what we might teach in the future. . . ."

Lesser proceeded to introduce Edward L. Palmer, president of World

Media Partners in Philadelphia, who served as the first in-house director of research for CTW. Noting that Palmer "established the research tradition at CTW," Lesser asked him to comment on "the earliest and perhaps most influential research reports of all, the

Educational Testing Service studies in the early 1970s," and then to introduce Samuel Ball, who directed those studies and flew in from Australia, where he is now a professor at the University of Sydney, to participate in the symposium.

Edward L. Palmer

Creating CTW's Research Arm

"When Sam Ball and I started discussions in mid-1968, we were clear that we needed behaviorally stated goals, as much for blueprinting the television programs as for blueprinting his evaluation instruments. Joan Cooney, Lloyd Morrisett, and Gerry Lesser had created a curriculum framework geared to the special preschool needs of children from low-income homes. Thus, our statement was created to reflect one overriding criterion: Will this bit of learning facilitate the child's transition from home to school?"

During the initial organizing of CTW's research arm, Palmer noted, Samuel J. Messick, ETS vice president for research, and his colleague, Scarvia Anderson, said that both formative and summative evaluation were highly important, but if there were sufficient resources for only one of the two, CTW should do the formative evaluation. "Fortunately," Palmer said, "we had the resources to do both."

When the first curriculum statement for *Sesame Street* was issued, it stirred

varied reactions, he continued. Some voiced concern that its dry, pedagogical language would "upset the delicate balance between entertainment and education," with education dominant and the enterprise compromised. Others, including the chief writer, welcomed the goals. "Dave Connell, head of production, said, 'I like it, but it promises too much.' He suggested we identify a limited number of priority objectives for which we would be accountable, and we did that."

"The producers began to extend their span of consideration beyond the television screen to encompass and include that child out there. Finally, the response from Sam Ball and (his associate) Gerry Ann Bogatz was to create a special set of test instruments and to design and carry out a summative study. I'm proud to have been the one who contracted with Sam to carry out four of the most cited and significant evaluation studies in the history of research on the educational application of television, and I give you Sam Ball."

Samuel Ball

The First Evaluation

“If I may, I’d like to indulge myself with a personal reminiscence. I first became acquainted with *Sesame Street* just after its conception, while it was still a nameless fetus, long before the labor that brought forth television’s revolutionary child. I was invited by my future employer, ETS, to drop down from Teachers College, where I was working, to see how ETS was developing new research projects. When I arrived, there was Joan Ganz Cooney, Lloyd Morrisett, Gerry Lesser discussing with Scarvia Anderson and Sam Messick the prospect of evaluating a television show that was going to be both entertaining and educational. We all agreed that educational innovation deserved and needed the best attention of social scientists from the outset, and we wondered what kind of people would be needed to carry out that task.

“About two weeks later, I rang ETS and said if it wasn’t too presumptuous, could I get involved, and was asked if I would like to be the ETS project director. That was April of 1968, and it was a moment, I think, that changed my professional life. My thesis here is that some activities, like days when we get out on the wrong side of the bed, are plagued with misadventure, mischief, and miscellaneous miseries. And other activities that the gods smile upon seem suffused with sunshine, success, and sundry satisfactions. . . .

The Titanic’s maiden voyage is an example of the former, and obviously, *Sesame Street* is an example of the latter. . . .

“*Sesame Street*’s evaluative research began at a time when evaluation was about to become a profession. Such writers as Stake, Guba, Cronbach, and Stufflebeam were beginning to turn their attention to the theory and process of evaluation. Michael Scriven, for example, had just coined the terms ‘formative’ and ‘summative’ a few years earlier to describe separable but overlapping evaluation activities. . . . And there were a number of major curriculum initiatives that had been funded by the U.S. government, and evaluation had been made mandatory for them. The decision was made to work towards having an in-house team that would be able to carry out formative activities related to production ideas for the objectives, providing writers with background information, and so on. . . . There was also to be an out-of-house third-party summative evaluation group that would provide an accountability dimension for the funding agencies. . . .”

Setting Goals

When he began working on the project, Ball recalled, his first task was to attend five three-day seminars in mid-1968.

Each seminar dealt with a different curriculum area, and all were thoroughly described in *Children and Television: Lessons from Sesame Street*, a 1974 book by Gerry Lesser. Ball continued:

"My job was to make sense of the goals suggested by some of the participants and try to work out what kind of subsequent measurement activities we would need to make sense of the performance of *Sesame Street*. Sometimes it was easy to get agreement on performance objectives from among the famous and not-so-famous — but all talented — child psychologists, television producers and directors, educators, librarians, children's book authors, subject specialists, and the occasional preschool teacher. Sometimes it wasn't so easy.

"Mathematics and Numbers, I remember, was a great problem. The mathematicians told us that mathematics was life, mathematics was rhythm, mathematics was patterns, mathematics was music, and so on. But what would we do to measure whether the show was doing something successfully or not? And what should the show do? I recall with some nostalgia sitting with Gerry (Lesser) at the end of each day puzzling out what we'd achieved, where the gaps were, which participants we needed to draw out more, and which ones we needed to shut up. With the aid of some outstanding educators, we solved the mathematics puzzle, as anyone who's been watching *Sesame Street* these last 20 years would agree.

"In the early autumn of '68, Ed Palmer arrived full time at CTW to head the in-house team, and I continued my work, now specializing in summative evaluation. We had a reasonable goal statement that included some 60 objectives and . . . we had to face the next problem of measurement in the

context of our contracted task. It was necessary to look at the show's impact across a variety of kinds of children: three-, four-, and five-year-olds; boys and girls; advantaged and disadvantaged; city, suburban, and rural; Black, Hispanic, and White; Northern, Southern, Eastern, and Western; at home and in preschool."

Creating Instruments

"If the subjects had to come from such a variety of contexts, there would need to be measuring instruments to test a large — a very large — number of children over a few weeks, just before the show went on the air, in a number of quite different sites. We realized, as we began negotiating for these sites, that we had another problem on our hands: The testers could not be your average, college-educated, middle-class, clipboard-wielding, hyphenated research assistants. It was the year of ferment: 1968. Ghetto consciousness had been raised, Black was beautiful, White middle-class researchers were viewed with suspicion in the inner-city areas. I can remember someone saying, 'You've come to prove our kids are stupid, haven't you?' The validity of data collected by a tester or interviewer of dissimilar race or social class was very much under question. So after negotiation, we agreed to use local indigenous testers, field staff, and field directors, which was easier said than done.

"Measurement technology for three- to five-year-olds involved individually administered measuring devices, and the tradition was that each test made numerous clinical judgments with a wide range of materials, something like the Stanford Binet. There were new tests being developed as part of the

Head Start evaluation that had been pushed by LBJ (President Lyndon B. Johnson), but those tests were also complicated and assumed a high skill level in the tester. I was lucky to have the aid of ETS's collective expertise — and also the assistance of a brilliant research assistant, Gerry Bogatz, whose subsequent career has proved that it was no lucky one-time effort on her part. Tests directly related to the attainment of the objectives were to be developed to be administered by people who didn't have years and years of post-high school training. Many of our testers, in fact, were high school dropouts, trained during two-day workshops.

"The marvel was that by using a simple testing format, not only could the testers easily be trained, but the children, after one or two practice examples, could easily be assessed over a wide range of objectives — the main thing they had to do was to point. The validity of the results was, I believe, arguably improved, because there was no confusion on the child's part as to what was required and no unreliability brought on by testers having to make complicated clinical judgments. The test administration process was described extensively in our two reports.

"In passing, I'd like to draw attention to the fact that the in-house and the out-of-house evaluation research teams were able to complement each other's work. So in '69, as various segments were put together to form a prototype show, we had a trial in Philadelphia. The in-house evaluators used the ETS measures as one means of assessing the outcomes, and they gave us invaluable feedback on the tests, which we subsequently modified. We served in a similar fashion to augment the formative feedback group. . . ."

Looking for Side Effects

"It's not due to random thought processes that I have referred first to the development of goals and objectives and second to the development of measuring instruments that were tailored to them and that were sensitive to the measurement context. Both were vital, of course, because if we had done nothing else, we had to answer the question whether *Sesame Street* was achieving what it was setting out to achieve. The new theories of program evaluation (positively) and the quickly emerging critics of *Sesame Street* (negatively) joined forces to ensure that we did more than look for intended outcomes. Scriven was calling for 'goal-free evaluation,' which we saw as being impractical and very costly. He was, however, pointing out the problems created by blinkered and tunnel-visioned evaluations; so we rejected the goal-free approach but decided it was important to look for positive and negative side effects. Critics were beginning to argue that even if successful as intended, *Sesame Street* would ensure that children would watch more television, would be read to less, would develop unrealistic expectations regarding learning. When it came to going to school, they'd be bored — or more bored, as the case may be — and they'd want the teachers to be like Big Bird. . . .

"In our first-year evaluation, we established that viewing *Sesame Street* did not lead to greater television viewing, and that parents did not read less to children. In the second-year evaluation, we established that, at a minimum, there were no problems with viewers being bored by kindergarten or first grade and that, if anything, the greater knowledge they brought with

them to school enhanced their school enjoyment.

"Not all of our efforts to look for side effects were viewed positively by some of our friends. We decided, for example, to study the extent to which generalization occurred. That is, if children learned their letters and letter sounds and a few sight words like 'mother' and 'supermarket' from *Sesame Street*, would they also learn untaught but familiar words like 'ice cream'? This caused a little consternation; we were warned that critics of the show would use children's failure to generalize as evidence against the show. Well, we went ahead — backed, of course, by our Research Advisory Committee and our fellow researchers. — and we found that if *Sesame Street* wants to teach something, it should go about it

directly and not simply wish for generalization to occur. Subsequently, no one was silly or illogical enough to claim that was evidence to suggest a criticism of the show itself."

Evaluating the Study Design

"The first-year evaluation gave rise to a number of chapters in books and articles drawing lessons from the experience. The two most satisfying to me were the chapters in the Minnesota Symposium on Child Psychology and Julian Stanley's *Compensatory Education for Children, Two to Eight*.

"In the Minnesota Symposium chapter, we drew attention to the problems encountered with our evaluation design. We had opted for a true experimental design because this was



From left:
Professor Sam Ball, conference coordinator Bob Davidson, former ETS researcher
Gerry Bogatz, and KQED-TV instructional director Milton Chen

the best way of unequivocally showing causal relationships between a treatment and its effects. In the first year, we randomly assigned subjects to viewing and nonviewing conditions. Gerry Lesser and others on the Research Advisory Committee may recall being worried that the viewing group wouldn't view — after all, *Sesame Street* was being broadcast on PBS stations that had, at that time, some three percent of the viewing audience on a good day. We seriously debated whether we should pay families in the viewing group to view, but while we rejected the idea on the grounds that, if we did that, it would be hard to generalize the results, we realized that we had to monitor the situation closely to ensure that we had a treatment group.

"History tells us, of course, how erroneous our predictions were. . . . Our problem was the reverse, in fact. Our control group, the nonviewing group, broke ranks — absolutely unexpected. Something like 60 percent of them viewed to some degree, as opposed to something like 90 percent of our experimental subjects. Our first-year report and the Minnesota chapter detailed the added use of an age-cohorts design within the original experimental design to establish treatment-effect causality.

"In the second-year evaluation, we showed that we had learned, just like the children watching *Sesame Street*. We moved to sites where the show could only be viewed by cable television or UHF station, and we provided cable or UHF capability to a random group from a pool of subjects, and our second-year results confirmed those from the first year: Across a wide range of goals and a wide range of children, *Sesame Street* was teaching well."

Examining 'the Gap'

"On compensatory education, I can best make my point by quoting from our chapter in the Julian Stanley book: 'The frequent-viewing disadvantaged children not only outgained but surpassed the less-frequent-viewing middle-class children.' This was the point of interest, and also the point that drew criticism upon us and upon the show. In one sense, the gap between middle- and lower-class children was being diminished from pretest to post-test, but it should also be noted that the middle-class children tended to gravitate to the frequent-viewing groups. The real challenge, therefore, was to use community outreach efforts to get more of the disadvantaged children to view the show.

"We had shown, too, that given the validity of certain psychometric assumptions, lower-SES children who viewed gained about as much as middle-SES children who viewed, which is rather astonishing when you look at the usual effects of educational treatments. Our more general conclusions I'll repeat, because unfortunately, 20 years later, the validity still seems largely to hold true. Preschool education, we noted, needs better programs; a greater variety of programs, including nontraditional ones; better delivery systems, so that the vast majority of children receive the benefits, as opposed to the current minority who do; and better methods of assessing the value of the programs. That may seem to be a rather somber note, but it also carries the message that improvements in all these areas can be effected, because *Sesame Street* evaluations tell us so."

Criticizing the Evaluation

"Of course, the *Sesame Street* evaluation had its detractors. In Australia, we have what we call the 'tall poppy' syndrome. When you see a tall poppy, you saw off its head, quick smart. . . . The USA is not barren of this kind of reaction to success, either. I've already dealt with criticisms that *Sesame Street* would spoil children's enjoyment of school, would cause parents to read less to children, would cause more TV viewing. An evaluation should enable the study of such criticisms, and I believe ours did.

"More specifically, the criticism of the evaluation itself was that it wasn't sufficiently ethnographic. It is true that my academic background is educational psychology; I'm not an anthropologist. It's also true that we didn't take the advice offered by some of our colleagues who asked us to put aside our evaluation design that involved well over 1,000 children and, instead, to turn to an intensive study of just a few children and watch their viewing and their families. Of course, these things aren't mutually exclusive. One could do both if one had the time and the resources to do so. We opted for the design that satisfied, I believe, the needs of Children's Television Workshop by complementing the in-house group's efforts and satisfied the funding bodies best by establishing as objectively as possible the cause-effect relationships, both intended and unintended, across a wide range of children. Later studies by others took up different challenges and used other techniques and designs, as we'll see later today. . . ."

Summing It All Up

Acknowledging that reports laden with graphs, tables, and statistics often make "barren reading," and that he himself prefers in-depth anecdotal observations, Ball continued:

"Nonetheless, I heard that we at ETS did an evaluation that was more objective, more replicable, and perhaps more reliable. Looking back with Gerry Bogatz, we contemplated whether we'd do things radically differently were we to approach the first-year evaluation with today's understanding of program evaluation. Well, given that there were two evaluative research groups, with our task being summative; given that there were critics. . . who denied that the show could achieve its objectives; given that the federal government was decidedly nervous about. . . having. . . (funded) an experimental children's television show and needed to have hard accountability data; and given that some of our ETS colleagues refused to believe that any television show could have an educational impact — at that time, the big argument in education was do *schools* make a difference, let alone television — then the answer is: We remain committed to our heavily quantitative, scientific methodology-oriented approach, and we hope (and we know) that later researchers looked for more subtle nuances.

"I began by saying that my thesis today was that *Sesame Street* was one of those things that attracts success and satisfaction. I can vouch for it in my own professional life. After my evaluation, I became, I think embarrassingly, an instant expert in a variety of diverse areas — early childhood education, educational technology, educational television, educational assessment of

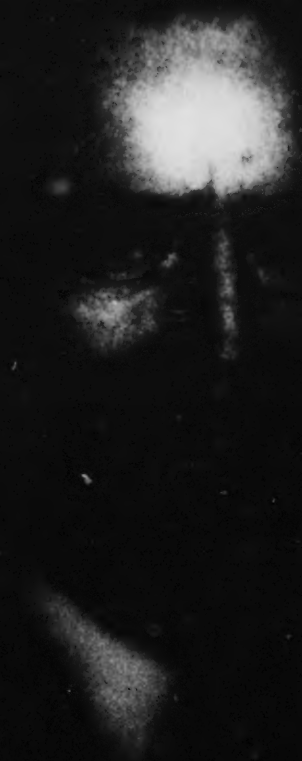
young children, compensatory education, child development. I was, fortunately, able to overcome the embarrassment. Nonetheless, *Sesame Street* did benefit my career and the careers of many others.

"Much more importantly, of course, it benefited children's television as no other show has done, before or since. I think our evaluation showed that an hour a day of viewing attention-holding educational television can have a positive educational impact on young children. *Sesame Street* brought on its

coattails a spate of attempts to emulate its format and success. None quite captured the magic. However, perhaps this important anniversary of *Sesame Street* should remind us of the importance of funding innovative educational television and coupling with such funding an adequate social science input from the earliest stages. The power for good is clear. The need to continue the quest for creative educational uses of modern technology is undeniable."



From left: President Bruce Christensen, Public Broadcasting System; Director Douglas F. Bodurwell, Corporation for Public Broadcasting, and President Don Leding, Corporation for Public Broadcasting



SUBSEQUENT RESEARCH

Edward L. Palmer, the first director of CTW's in-house research unit, also contracted with ETS to do the initial summative evaluations.

Gerald Lesser, Moderator

"In this first panel, we'll be focusing on highlights of *Sesame Street*'s research record over 20 years, and I know we have three of the exactly right people to discuss this with you. Dan Anderson, psychology professor at the University of Massachusetts in Amherst, will be talking about the cognitive effects of *Sesame Street*. . . . Then Aimée Dorr, a professor in UCLA's Graduate School of Education, will be talking about social and emotional effects of *Sesame Street*. . . . She may also say something about the interpersonal context of viewing, which I'm sure she will explain to us as she goes along. And lastly, Milton Chen, who is director of instructional television at KQED (San Francisco), will talk about message design issues in *Sesame Street*. . . ."

Daniel R. Anderson

Cognitive Effects of Sesame Street

“Before *Sesame Street* was broadcast, there was little effort to understand the cognitive nature of young children’s television viewing. What was written emphasized preschoolers’ cognitive inadequacies in the face of film and television. For example, European and Japanese scholars interpreted Piaget’s theories of cognitive development as implying that preschool children were simply not capable of comprehending edited film. Consider the standard establishment shot sequence in which the outside of a building is shown followed by an interior scene. The viewer is expected to infer that the interior scene is inside the building just shown, an inference of spatial relationships. Other inferences demanded by standard film and video editing techniques include inferences of time, implied action, character perspectives, among others — all of which were thought to be difficult if not impossible for the preschool child.

“Following these assumptions, the recommended program format for preschoolers involved slow pacing, minimal editing, and familiar settings which change very little. I think prime examples of programs utilizing these formats are *Houdy Doody*, *Romper Room*, *School*, and *Mr. Rogers’ Neighborhood*. But, as described in Gerry Lesser’s book, *Sesame Street* provided a radical departure from this tradition.

Its innovative use of a magazine format with segments varying in setting, character type, style, visual medium, and use of cinematic montage seemed to fly in the face of common wisdom concerning young children’s cognitive inadequacies. In particular, the explicit efforts of *Sesame Street*’s producers to gain and hold their viewers’ attention was a departure from previous practices.”

Critical Reaction

“Despite the program’s initial popularity, the new format produced a substantial and somewhat influential critical reaction, a reaction based on the ‘cognitive deficit’ view of preschoolers. The essence of the critique, as delivered by individuals such as Marie Winn, Kate Moody, Dorothy Cohen, Jerome and Dorothy Singer, Jerry Mander, Neil Postman, and many others, is that young children’s attention to television is essentially passive and reflexive in nature. In this view, children are reflexively attracted to the TV by such factors as visual movement and novelty with consequent passive cognition. Rapid transitions between scenes and reflexive attention mesmerize children and interfere with their reflection and inference, according to these critics, so that the child is left only with memories of a jumbled, disconnected set of visual images.

"This presumed reflexive and passive cognition during *Sesame Street* was thought to produce dire consequences — impulsivity, a shortened attention span, and a reduced ability for inferential and reflective cognition. At its peak, the concern produced a kind of hysteria so that in the mid-1970s newspaper headlines referred to 'the *Sesame Street* hazard.' This critique seemed peculiar in contrast with the apparent success of *Sesame Street* in accomplishing its educational goals that is revealed in the ETS evaluations. The success could not be easily explained as a result of passive, disconnected memories. The debate was joined by behavioral scientists, most of whom are here today, in the fields of child development, communications, education, and psychology, who began to study the cognitive aspects of children's television viewing. I was certainly attracted to the

field by this debate; I thought it was a very interesting scientific problem. A few salient names in this research are Andy Collins, Aimée Dorr, Aletha Huston, Gavriel Salomon, John Wright — and, of course, their collaborators and many students."

The Evidence

"The new research showed that the critique was wrong. The child viewer of *Sesame Street*, rather than being a mesmerized zombie, is selective and intellectually active. Let's consider the evidence. When children watch *Sesame Street* at home or in a home-like environment, they do not just sit and stare at the screen. In fact, children look at TV and away many times during the course of the program, which, incidentally, they do during most other TV programs as well. Preschoolers are



Psychologist Daniel R. Anderson, University of Massachusetts at Amherst

not mesmerized by *Sesame Street*. We now know a great deal about why children look at *Sesame Street*, look away, and look back again, and Table 1 lists a few of the principles that we've learned. Some have very substantial research support, and all have at least some research support. Many people contributed to work on these principles, including possibly half the people in this room. . . .

"We also know something about children's listening to television, and about why periods of looking are initiated. When children listen to *Sesame Street* at the level of word and sentence comprehension, it is primarily when they're looking at it; when they're *not* looking, they're listening — monitoring the audio — for cues which they have learned will signal entertaining or comprehensible content.

"We know something about their maintained attention, and a key factor is that the content be understandable. There are other factors as well: that they can apply a familiar sort of mental structure such as a story schema, humor, their own interests and experiences, and other factors as well. As Table 1 indicates, we also know something about why children stop looking at *Sesame Street* and why they do not resume. . . ."

"Many of these factors point to the young child as a somewhat strategic viewer of *Sesame Street*. When the content is comprehensible and entertaining, the child watches. This explains why attention to *Sesame Street* steadily increases from infancy up to about age five. As children understand more and more of the program, they pay more attention. When the content is poorly

Principles of Attention to *Sesame Street*

Listening	Primarily when looking. Listen for cues of comprehensible entertaining content when not looking.
Initiation	(1) Learned auditory cues (e.g., children's voices, peculiar voices, sound effects) (2) Another child looks. (3) Visual movement.
Maintenance	(1) Comprehensible content. (2) Schematic involvement (e.g., application of story schema). (3) Humor. (4) Idiosyncratic factors (interests, experience). (5) Attentional inertia.
Termination	(1) Content change. (2) Decrease in comprehensibility. (3) Another child looks away. (4) Distraction. (5) Concurrent activity demands attention. (6) Long zoom shot.
Maintained Nonlooking	(1) Learned auditory cues. (2) Involvement in concurrent activity. (3) Attentional inertia.

Table 1

understood or confusing, the child plays with toys or other children, but monitors the audio for cues that the content has become comprehensible or has changed. But note: A major reason *Sesame Street* receives high attention from preschoolers is that they find it understandable as well as entertaining. . . .

"A comment is in order about viewing by infants and toddlers. There is growing evidence that *Sesame Street* is the first program to which children consistently attend. Some important observational research by Dafna Lemish and Mabel Rice shows that toddlers use *Sesame Street* as an occasion for parent interaction, verbal labeling, and language learning. Their descriptions of parent-child interactions around *Sesame Street* indicate that the experience is anything but passive."

About Comprehension

"Now consider what we know about comprehension. The evidence is fairly clear that preschoolers understand a great deal of the kind of cinematic montage used on *Sesame Street*. That is, they are able to make the appropriate inferences of space, time, implied actions, and character perspective necessary for understanding many segments. A study by Robin Smith (now Smith Jacobvitz) and her collaborators found that four-year-olds made most of the inferences appropriate to decoding the transitions between scenes in experimentally produced stories. Remember, the original view was that preschoolers were not capable of doing this.

"It is also apparent that preschoolers, by and large, understand short segments which are produced for them. For example, Betty Lorch and her students, using careful testing proce-

dures, found that five-year-olds recalled 92 percent of the central elements in a set of *Sesame Street* segments. Other research by Lorch and by Jane Gibbons and their colleagues showed that preschoolers' comprehension is coherent, connected, and not substantially different than their comprehension of narrated text.

"Important work by Andy Collins, on the other hand, clearly shows the limits of young children's comprehension of TV. Only at about eighth grade did children show adult levels of comprehension of full-length television dramas. All of the comprehension and attention research taken together indicates that the original decision to produce a magazine format program was indeed appropriate for preschoolers."

Critics in Error

"The critics' theory of the nature of *Sesame Street* viewing is clearly wrong. If *Sesame Street* shortens attention spans and reduces thought capacities as they claim, it does not do so through reflex attention and passive cognition. But does *Sesame Street* have these bad effects? Studies from my own group, the Singers (major critics themselves), and Gavi Salomon either find *no* effects of *Sesame Street* on attentional abilities or *positive* effects — that is, increased attentional and perceptual performance after watching *Sesame Street*, exactly the opposite of what was claimed.

"The only study which has reported a negative effect was one done in Israel by Gavi Salomon. He showed second graders — now, these are children much older than *Sesame Street's* intended audience — either five days of *Sesame Street* or five days of nature films. While the children who watched *Sesame Street* outperformed their nature-film counterparts on a number

of tests of attentional and perceptual abilities consistent with other research, they showed poorer performance on one test of perseverance. This test required the children to cross random digits off long lists — an exceptionally tedious and meaningless task. The children who watched the nature films crossed off more digits. This one result of one study is the only negative effect Pat Collins and I could find when we surveyed the research literature. Even that one result might have been due to children increasing their perseverance after watching nature films and not decreasing it after watching *Sesame Street*.

"Summing up, children who watch *Sesame Street* are selective and intellectually active. Their attention to and comprehension of the program increases throughout the preschool years, and by and large, they appear to learn what the producers try to teach them. We have evidence that *Sesame Street* actually enhances attentional and perceptual abilities with only a little

evidence to the contrary.

"While there are no substantial studies on *Sesame Street*'s long-term effects on cognitive abilities, the evidence to date gives us no reason for alarm and a great deal of reason to be optimistic. As parents and now grown-up viewers believe, the best guess is that *Sesame Street* enhances cognitive development. Incidentally, I can't find any students in any of my classes at the University of Massachusetts who think that they — in any way, shape, or form — were harmed by watching *Sesame Street*; they all believe they were helped.

"Finally, *Sesame Street* has enhanced the cognitive development of many educators, researchers, and theorists who think about television. Research on *Sesame Street* has shown us that young children are far more capable than we previously believed, and *Sesame Street* itself has shown us the extraordinary potential of television as a medium of education."

Aimée Dorr

Social and Emotional Effects of Sesame Street

“It has been a pleasure to prepare for this talk. I went back and looked at the literature, reacquainted myself with many old friends, and found some new ones as well. . . . In reviewing the literature, I covered social behavior, attitudes, labeling of emotions, associated content analyses, and a little bit on interpersonal effects on viewing and learning. I'm sorry to say there is no unifying theme or . . . trend in this research at all. So what I'd like to do is give you three observations about this body of research and then string together a sampling of it which hits the high points. Here are my three observations:

- “The mid-'70s was the heyday for research on social behavior effects and content analyses.
- “All the other areas have been studied off and on through the '70s and up to today.
- “It is altogether a very small amount of research on social-emotional and interpersonal effects on viewing and learning.

“The small quantity of research is no doubt due to the fact that *Sesame Street* has had as its primary emphasis cognitive goals, not social goals.”

Social Goals

“Let's look at (Table 2). These are. . . data from those very wonderful Ball and Bogatz ETS evaluations. . . . One of the things they did was an incredible content analysis of what goals were addressed how much of the time. And this is how much social goals were covered in years one and two. You can see it's a small amount of time, spread over three major areas: the *self*, including the mind and its power, body parts, kinesthetic participation, and emotions; *social units*, including roles and functions, groups and institutions, family, neighborhood, city; and *social interaction*, including perspective-taking, cooperation, the division of labor, conflict resolution, and the like.”

Social Goals in *Sesame Street* as Percent of Content

Goal	Year 1	Year 2
Self	7.3	7.2
Emotions	3.0	3.5
Social Units	3.1	3.2
Social Interaction	2.7	4.8
Perspective	0.6	1.9
Cooperation	1.4	1.8

Table 2

"So the total amount of time given explicitly to all of these goals was small. Social interaction is the one content area for which there is anything like a body of research, seven, eight, or maybe nine studies about socioemotional effects. I'd like to talk about two of those studies as examples of this literature."

Social Effects

"The first study is by a former student of mine, Terri Silverman, and Joyce Sprafkin. They were interested in what teaching strategy to use to encourage prosocial behavior. They contrasted the prosocial approach with the conflict-resolution approach. An example of the prosocial approach is showing three kids, one with paint, another with brushes, and a third with paper, and asking what do they do in that situation? Well, of course, they share happily. Conflict resolution, on the other hand, is illustrated by five very thirsty men all getting to the drinking fountain at the same time. They all fight over who goes first until someone says, 'Hey, wait a minute here, this is a dumb way to act.' So then what do they do? They take turns, resolving their conflict in a prosocial way."

"Silverman and Sprafkin put together tapes contrasting the conflict-resolution and prosocial approaches, added neutral *Sesame Street* content, and showed them to three-, five-, and seven-year-olds. They looked at the youngsters' degree of cooperation in the famous (or infamous) marble-pulling task. In the marble-pulling task, two children sit across from each other at a game table. They are shown that a marble holder will move toward the child pulling it and drop a marble in that child's cup. If they both pull the same holder, they are shown that it will

break apart and neither child will get that marble. They are told there will be a certain number of tries at the game and that each child will be able to trade his or her cup for a prize at the end. They are then observed to see their degree of cooperative turn-taking to get marbles and their competition."

"Silverman and Sprafkin found weak effects, in general. In analyzing the results, the only thing that was significant was age — as kids get older, they don't cooperate; they get fewer and fewer marbles. They know that when you play a game, you're supposed to be in conflict, in competition. In the data, there is a clear but nonsignificant effect of condition where the prosocial approach to teaching, or encouraging, prosocial behavior was more effective. It was most markedly effective for three-year-olds, where the conflict-resolution condition led them to quite a bit of conflict. . . ."

"Now, I'd like to look at the second study, an earlier one by Paulson, McDonald, and Whittemore, who were contracted by CTW to develop information for prosocial programming and to do an evaluation of the programming that was then developed. Their study, I think, is paradigmatic of the findings. They took a set of taped segments that were based on situations kids actually experience in preschool. They showed those tapes to *Sesame Street* viewers and nonviewers and then compared their performance in several activities."

Dorr described the performance measures as follows: *Picture recognition* simply involved selecting the right prosocial alternatives from among drawings; *modeling* was scored when children imitated what they had seen in three or six identical or nearly identical situations; *nonimitative cooperation* was scored when it appeared in the same three or six situations; *generalized*

prosocial cooperative behavior was scored when it appeared in structured situations that were not related to what children had seen on TV and in periods of free play in the preschool setting. The resulting data, she said, show that:

"When the content itself is explicit, and the outcome measure is explicit and close to what was shown on television, there is a clear effect of the content. When you look for greater generalization, it disappears. That's very common in this literature. It suggests one of three issues that I think . . . are still worth studying today — that is, how do you get the most generalization possible from the program content that you use? . . ."



Professor Aimée Dorr, UCLA

Unintended Effects

"I also think it's worth looking more at . . . largely unintended effects. *Sesame Street* has been mostly about cognitive informational areas, but most of that content is actually carried in a social context. Just as an example, I brought this drawing from a *Sesame Street* magazine. It's not too good a copy, and I colored it myself, but you can see this is designed to meet a number goal: What is six? Six is six entities. But the drawing also carries a lot of social content. If you'll notice, these are all princesses. All princesses have beautiful long hair or curly hair. They all wear dresses and behave in very feminine

ways. They curtsy, they hold their hands delicately, there's no rambunctious princess there at all. And most *Sesame Street* content, almost all the cognitive content, is carried in a social context with largely unintended — but often very clear — social messages as well. . . .

"Now, again going back to the early evaluations, in year two, these unbelievable people from ETS went through and coded how every goal of *Sesame Street* was addressed. Was it done with live action or film, people, Muppets, animation, etc? These goals — sound identification, relational terms, Spanish vocabulary, antecedent events, consequent events, the mind and its powers, body parts, emotions, community members, different perspectives, and cooperation — were all addressed only with content conveyed by people or Muppets in live

action or film segments. In other words, they were addressed in a completely social, people-oriented way. . . . Other goals — teaching about letters, numbers, and shapes, for example — were also often done socially, either in live action or film or in animated material involving people or Muppets.

"From the beginning, *Sesame Street* has been very integrated; it has shown many, many people — more than most shows, by a long shot — and it has had a racially mixed cast of intelligent, attractive, competent people who interact across race lines in very good ways. And I think that fact accounts for one interesting finding in the second-year evaluation: Evaluators looked at children's reports of how comfortable they would be in cross-race situations — for instance, a Black kid with a White policeman or a White kid with a Black doctor — and the children's reports indicated that those who had watched *Sesame Street* for two years would not only feel much more comfortable in those situations than children who had not watched at all, but would also feel much more comfortable than those who had watched for one year, rather than two.

"I think you see that sort of an effect only after two years of viewing because *Sesame Street* didn't come out and hit you on the head with the fact that interracial interaction can be comfortable or fun. The message was embedded in other material, but it was there, very much there. . . . And that is another issue that I think is still worth looking at: the unintended effects of cognitive content embedded in social context.

"Of course, it was belief in such unintended effects that led to content-analysis research with *Sesame Street*. In the mid-'70s there were numerous content analyses, almost all oriented

around portrayals of men and women. In the case of *Sesame Street*, what you found was that it was heavily male, in terms of number of characters, and heavily male in its portrayal of people at work, and fairly typical in showing males much more as active know-it-alls and women as passive failures. . . . We have already seen how the social context of cognitive messages might have important effects in its own right. These context effects could be positive, as in the example of racial integration, or negative, as in the example of portraying men as active and women as passive."

Viewing Environment

"Now, I want to switch. . . from the social effects of the program to the social effects of the viewing environment. . . . In both the first and second years of *Sesame Street*, as Sam Ball said, some mothers were encouraged to have their children view and other mothers were not. In some cases, encouragement included providing the physical means — the cable or the UHF receiver — by which you could actually watch the show, but not in all cases. The evaluations showed that children whose mothers were encouraged outgained those whose mothers were not. The results. . . have been replicated since, so I want to (review) those results.

"What they found in year one was that the total gains for kids whose mothers were encouraged were significantly greater than the total gains for kids whose mothers were not encouraged. Now, why would that be? Well, as Sam Ball said and as the data show, one reason is because the kids whose mothers were encouraged watched more, and we already know the more *Sesame Street* you watch, the more you learn. But that's not the whole answer,

because. . . in year two, the encouraged and not-encouraged children were also divided according to how much they viewed. Even when you tried to equate for amount of viewing, there was obviously something going on here that had to do with the mother having been encouraged to have her child watch.

"So the third interesting issue is why? What does the mother do? What makes the difference? We don't know the answer. We didn't know the answer then, and we don't know the answer now. In the second-year evaluation, there are some hints. There are some data. Did encouraged mothers coview more with their children? In the second year they didn't, but in the first year they did. Did they talk more about *Sesame Street*? There's not a significant effect, although it looks like maybe they did talk more. Did the child play more *Sesame Street* games? Maybe, but it's not statistically significant. Did the parents perceive *Sesame Street* to be more helpful? In the second year, those whose children viewed the most did find it to be more helpful. The sum total of the data says it cannot only be viewing that makes a difference; it's

something else as well. We still don't know that much about what else.

"So, to conclude, 20 years of research in the socioemotional area with *Sesame Street* suggests that you can definitely affect prosocial interpersonal behavior when the content and the testing are similar and fairly specific. Other *Sesame Street* research shows other social effects, for example, sex-typing toys and encouraging cross-sex play. It suggests you can certainly affect attitudes, particularly over the long run, and that effects can be increased when mothers are encouraged to have their children view and are somehow more alert to *Sesame Street*.

"The research also leaves open questions. How do you get greater generalization or more bang for your buck? How do the unintended social messages that occur with the cognitive content function? And what do encouraged mothers do differently that leads their children to gain more from *Sesame Street* than other children who also view? These are questions I hope we'll tackle in the next 20 years of research. Thank you."

Milton Chen

Message Design Issues in Sesame Street

"Professors Anderson and Dorr have just presented some highlights from the research on the relationships between children's cognitive and social development and *Sesame Street* viewing. I want to point out that this work has been largely carried out in the pristine groves of academe, where learned scholars endeavor to make theoretical contributions to knowledge and are often aided by vast armies of graduate research assistants, who program high-speed computers capable of detecting the slightest whiff of statistical significance. These results are reviewed by fellow scholars and published in journals for the professions and even for posterity.

"Formative research, you know, is a very different game. Formative research for *Sesame Street* has been carried out largely by a small but hardy band of researchers employed by CTW. Their research questions address not the grand theories, but very specific production issues, from the scripting of segments — how should Luis and Maria talk about her pregnancy, how should Big Bird respond to Mr. Hooper's death — to very specific questions about the pictures and voices for animations or the lyrics for songs. The methodologies used trade more on perceptive child-watching and probing interviewing than they do on complex multivariate analysis.

"And, far from being readers of academic journals, the audience for these findings is a rather restless group of TV producers and writers. They care little for the niceties of experimental design, or statistical analysis. Indeed, for them, ANOVA is a PBS science series (*Nova*), and not the analysis of variance. The production team wants useful information for making TV shows. They want it spoken in plain language, and they usually want it yesterday.

"While formative research is communicated to the project team and its results are seen on TV screens by millions of children, its standing in the research community is less than prestigious. Formative research rarely meets the publishing criteria of professional journals. In fact, to rectify this situation, some of us had the bright idea of starting our own journal. We were going to call it *The Journal of Quick and Dirty Research*, but we figured its readership would be rather small and all we ended up doing was having a few more drinks.

"I want to discuss with you today three important insights from the formative research on *Sesame Street*. I picked these three not only because of their value to the design of *Sesame Street*, but because they are recurring issues for other CTW series and, in fact, for the design of educational television in general. It is striking to me how early

these insights were developed in the life of *Sesame Street* and how those analyses written in the early 1970s still ring true today.

"The first has to do with the design of segments to provide viewer participation. The second has to do with the effective use of repetition. And the third has to do with the complex relationship between appeal and comprehension."

Viewer Participation

"On this point about provoking viewer participation, there is, as Dan Anderson has pointed out, a very well-entrenched myth out there that television viewing is a passive experience. As Dan's research and that of others have pointed out, TV viewing can be a *cognitively active experience* for children, but it can be so only to the extent that its design elements stimulate and permit cognitive processing and oral or physical response."

"Formative researchers who watch children watching *Sesame Street* see children singing, laughing, dancing, pointing, and practicing cognitive skills, from recognizing letters and numbers to predicting the outcomes of such things as Bert and Ernie's predicaments. The segments that do this best are those that allow for viewer response, that invite viewers to participate either through implicit or explicit invitation or more subtle forms of pacing and modeling. This finding — that preschoolers will join in if given the chance — was made famous in the early years of *Sesame Street* by a well-known actor's recitation of the alphabet." (At this point, Chen ran the videotape of James Earl Jones dramatically intoning all 26 letters.)

"You may have thought, as the project team did, that James Earl Jones' shaven head and ominous voice might have proved intimidating for preschoolers. Instead, a very curious thing

happened. Upon first viewings, children repeated the letters after Mr. Jones did. Upon subsequent viewings, they began to recite with him. And upon even further viewings, they anticipated the next letter before he spoke it. (You, as an adult audience, were somewhat more reticent than the children were.) A learning curve was at work, made possible by a pacing that invited and encouraged oral recitation. That finding has become enshrined in the halls of formative research as 'the James Earl Jones Effect.'

"I want to note the parallel here to a concept studied by Mary Budd Rowe, the distinguished science educator, of 'wait time,' a concept she has studied in the context of classroom interactions between teachers and students. Dr. Rowe found that teachers often do not allow sufficient time for students to consider the questions that they ask, to formulate responses and then to produce them. Teachers, it seems, are as concerned as TV producers are with filling 'dead air.' She found that when teachers waited after their questions, often as little as a few seconds, the quality of student response improved dramatically. The students had time to think. And the research on the first test shows for *Sesame Street* reported that the level of overt response in segments was indeed related to the performance of four-year-olds on the ETS battery of items. The legacy of the James Earl Jones Effect has continued with segments such as *The Electric Company's* animations and songs and even *Square One TV's* use of mathematical game shows."

The Role of Repetition

"The second insight relates to the first, because viewer participation can be improved through effective use of repetition. The Russians have a saying



Milton Chen of KQED-TV, San Francisco

— and here you'll have to pardon my Russian — that goes something like, 'povtorenia mat'uchenia.' It means that 'repetition is the mother of learning.' *Sesame Street* has practiced that motto very effectively.

"There are, of course, several different types of repetition. Segments can be repeated intact within individual shows and across shows. But CTW's research staff during the first years issued some very wise caveats. I want to read from one very thoughtful report, which said, and I quote:

One must be careful in dealing with repetition. While it enhances some films, other materials become very boring to the child. . . . A key factor in repeatability seems to be the child's initial reaction. . . . If it surprised, challenged, or tickled him the first time, he is apt to want to see it again. As he does, he will be watching out for that which surprised

him, responding to the challenge, or alerting friends about the funny thing that is going to happen next. In general, repeatability offers an opportunity to introduce relatively complex concepts or situations which a child might not easily understand given a single exposure. . . . The repeatable segment can be used as something of a mind stretcher.

"Another type of repetition involves the design of formats whose conventions remain the same, but whose content can be varied. One of the best known formats with varying content is the game *One of These Things Is Not Like the Others*, or its variant *Three of These Things Belong Together*. The segment and its song were originally designed to teach children to sort and classify objects on the basis of size, form, class, number, or function. In the early years, four objects were presented as illustrations on an artcard divided into four quadrants. I want to show you a more recent version using actual objects and starring Maria and Elmo." (Here, Chen ran a videotape of Maria and Elmo.)

"Repeatable formats — in this case cued by the song *Three of These Things Belong Together* — allow children to become familiar with the conventions of a task. At the same time, they help children focus on the novel content in the task. The research indicated that children enjoyed achieving mastery of these formats, especially when they involved some element of overt response. The format has been extended now to include prereading skills, for instance, presenting one letter in each of three quadrants and a different letter in the fourth, using two letters, such as E and F, with some surface similarities. . . . So, in this sense, the format can be extended and the skills used to discriminate and classify objects can also be applied to beginning reading. . . ."

Appeal and Comprehension

"Historically, *Sesame Street's* formative research has explored the relationships between two large classes of dependent variables, appeal and comprehension. The naive view is that those production elements thought to be responsible for appeal — music, fast pacing, comedy, all the 'fun' stuff — are very different from those elements that are thought to be responsible for promoting comprehension, such as a slower pace and the use of graphics to clarify the message, the 'dull, instructional' stuff, right?

"In the minds of some, appeal and comprehensibility are orthogonal when, in fact, they are correlated and share variance in interesting ways. *Sesame Street* research, early on, identified a more subtle and more reciprocal relationship. Not only did appeal sustain attention, a prerequisite for comprehension, but the comprehensibility of segments could lead to higher appeal. The children liked it when they understood something. Indeed, they liked to learn. Some of the best-liked segments in the early testing were ones that were characterized by an attribute called 'visual simplicity.' The relationship between appeal and comprehension continues to be a central one for study in educational television.

"I'd like to close by leaving you with the concept of a Mrs. Gruenberg rule. Now, Mrs. Gruenberg was a child psychologist who lived in Southern California and made her reputation by giving parents some simple rules for raising their children. The best known of them was that you should never, ever, under any circumstances, spank your child. (Some of you know that I have a three-year-old daughter, so I'm interested in these pearls of wisdom.)

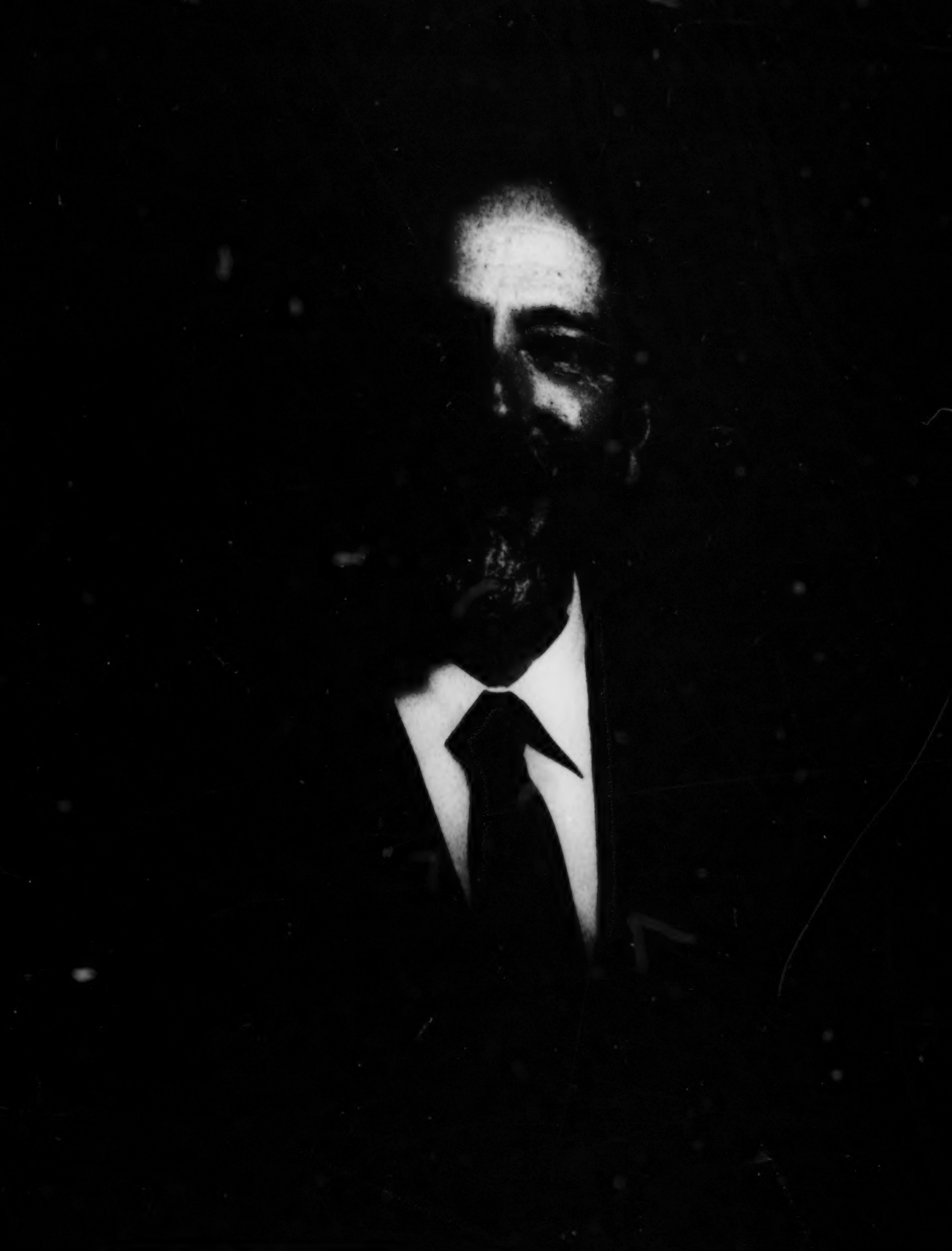
"One day, after one of her lectures, a young father came up to her and said,

'Now, Mrs. Gruenberg, I happen to love my son very much. I want you to know that, but I have to tell you that sometimes he behaves as if he wants me to spank him. Do you really mean that I should never, ever, under any circumstances, spank my child?' And Mrs. Gruenberg looked at him and said, 'Well, I think if you keep telling yourself that over and over again, you'll end up spanking him just about the right amount.'

"It seems to me that the formative research staff has, over the years, distilled a very rich diversity of children's television viewing behavior into a set of Mrs. Gruenberg rules for producers to live by. In fact, as Mrs. Gruenberg suggests, they are less rules than they are guidelines and signposts on the road to producing quality children's television. Sometimes the rule is best honored by its exceptions. The James Earl Jones Effect, for example, is an exception to the rule that long portions of talking heads don't work. We now understand that it depends a lot on whose head it is, what it's saying, and how it's saying it.

"So, always think of ways to involve viewers actively; always look for repeatable formats and ways to reinforce learning; and never, ever, under any circumstances, forget that *Sesame Street* is watched by millions of preschoolers every day. That's an enormous responsibility, and it requires the kind of careful design made possible by formative research.

"I would be remiss if I did not acknowledge the pioneering work done by the research staff during those early years. The ideas that I have spoken about today have been written about with great insight and eloquence by Ed Palmer, Gerry Lesser, Sam Gibbon, and Barbara Reeves. I thank them for letting me steal their stuff."



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CURRENT RESEARCH

*Vice President for Research
Keith Mielke oversees CTW's current
program of domestic and international
research studies.*

Keith Mielke, Moderator

CTW Vice President for Research Keith Mielke served as moderator for the second morning session. In succession, he introduced:

- Aletha Huston and John Wright of the Center for Research on the Influence of Television on Children at the University of Kansas, directors of a longitudinal study of *Sesame Street*'s effects on children from low-income families in inner cities.
- Mabel Rice of the Child Development Program, also at the University of Kansas, who has been studying the home use and effects of *Sesame Street* videocassettes.
- Valeria Lovelace, research director of *Sesame Street* for CTW, who is continuing the tradition initiated by Ed Palmer in 1968.

Aletha Huston

Longitudinal Study of Sesame Street Effects — Part I

“As I think we’re all aware, research, both formative and summative, has been an integral part of *Sesame Street* since its inception. The ETS evaluation conducted during the first two years of *Sesame Street*’s broadcasting is a model of evaluation research. It’s one of the best pieces of evaluation research that’s ever been done, in my opinion. Yet one of the major strengths of the approach that was used, the experimental method, also left some important questions unanswered. These questions have been raised by some of the critics alluded to earlier.

“We will address two of these questions today. First, because parents were asked to encourage their children as part of the experimental treatment, it was not possible to find out what might lead children to view the program under normal conditions. We did not learn from that early study why kids watch or why they do not watch. Some critics pointed out that the unencouraged children, particularly from economically disadvantaged homes, didn’t watch the program very much. That was in the first year or two when the program was unfamiliar and access to it was limited. Twenty years later it may



Professor Aletha Huston, University of Kansas

be quite different.

"The second unanswered question is about the encouragement-to-view treatment itself. The criticism was later raised that this treatment may have encouraged parents, as well as children, to take an unusual interest in the program — to do something above and beyond what parents normally do with the viewing situation — and, therefore, the outcomes of the program might have been in part due to the parent behavior and not to the program. Therefore, maybe the program by itself is not very effective; maybe it requires something in addition."

Two Studies

"For the past several years we have been addressing these two questions in longitudinal studies of media use occurring naturally among young children. We've undertaken two studies. In the first study, conducted in the early part of the 1980s, we followed approximately 300 children in Topeka, Kansas, some from age three to five and others from five to seven, collecting television-viewing diaries and extensive information about the children and their families.

"The second study, funded by Children's Television Workshop, has just begun in Kansas City. In that study, we're targeting low-income families, and we're beginning at age two, because parents constantly tell us that children start watching the program very early. . . . The first question in these studies is: What leads children to watch *Sesame Street* in the course of ordinary life?

"Results from the Topeka study showed that the amount of *Sesame Street* viewing the children did was primarily related to the amount of time that they were at home, or conversely,

the amount of time that they were away from home in preschool or child care. When they were in preschool and child care, they viewed less than the kids who were at home all the time. That finding obviously has important implications, because of the growing numbers of children that are in child care.

"The second major predictor was brothers and sisters. If you've got older siblings, you watch *Sesame Street* less and you leave it at an earlier age. If you've got younger siblings, you stay with it longer and you watch it more. It's not just an individual child but the family constellation of children who seem to determine when the program gets watched and how much it gets watched.

"Third, children's age was related to viewing. In our data, and I think this is true generally, viewing peaked around age four and then declined. Even that trend may be partly due to environmental circumstances and not to some kind of ontogenetic change. Children start going to school and doing more things away from home around age five. So the decline may be partly a function of changes in opportunity to view. (See Pinon, Huston, and Wright, 1989.)"

Editor's note: Dr. Huston refers here to the article "Family Ecology and Child Characteristics that Predict Young Children's Educational Television Viewing," which appeared in Child Development, 60, 846-856.

What Does Not Influence Viewing

"There are also some interesting variables that do not predict viewing. We had a fairly wide range of social class and parent education in this

sample. There was no difference in the amount of viewing as a function of those variables; therefore, the early notion that economically advantaged children were watching the program more than disadvantaged children is not supported by these data. The program is now much more accessible, much more well-known, and . . . disseminated much more broadly in society than it was in the early days.

"The amount of viewing is not related to the child's intelligence, and it's not related to the amount of viewing that parents do with their children. John (Wright) is going to come back to this issue, but about 75 percent of the viewing that we recorded was done without an adult present, and that's consistent with other studies. Most of the time when kids watch the program, there is not an adult there. There is probably a sibling there if they've got one, but not an adult.

"It (viewing time) is not related to the child's sex — boys and girls watch about the same amount — and it is not related to the child's overall interest in television. In short, many of the predictors of viewing are circumstances that are external to the child: the child's viewing opportunity, the family, and the viewing choices of the people around the child. Viewing also depended upon how many competing children's programs were available; that is, on whether or not the home had cable. These external variables influence viewing patterns more than the individual characteristics of the child, which have been emphasized by psychologists."

Implications

"These findings have important implications for how to make the program more available to kids. They suggest that viewing changes may depend more on our ability to create the opportunity for children to view than on doing something to children to make them more receptive to the program. In the new study, we're investigating four kinds of predictors of viewing:

- **"Family/home environment** — parent TV viewing and covieing; siblings' ages, sex, viewing habits; regulation and encouragement;



*ETS Assistant Vice President
Mari-Luci Jaramillo*

- **"Target child attributes** — age, sex, health history, cognitive level, TV focus in family;
- **"Sociocultural influences** — demographics, parent employment, school, day care;
- **"Television exposure** — number of sets, TV schedule, access to cable and VCR.

"We're assessing how these factors relate to a child's use of time and media, but I won't belabor them now, because we don't have any data yet to report to you. . . . We're examining the television exposure variables — just what kind of television is available — with particular interest. In the late

1980s, of course, there are a lot more cable channels, videotape recorders, and other kinds of technologies available to children than there were in the early 1980s. We want to explore the relations of some of those variables to children's viewing of *Sesame Street* and other educational programming.

"I would hope that by the 25th birthday of *Sesame Street*, we will be able to tell you about what we get from that second set of data with this new group of children. Our second major question guiding these studies is: What are the effects of viewing in natural settings — that is, without intervention? For this one, I'm going to turn the podium over to John."

John Wright

Longitudinal Study of Sesame Street Effects — Part II

“We have a problem with causal attribution when we say we have correlations between *Sesame Street* viewing and other measures that we'd like to attribute to viewing *Sesame Street*. Background variables like parent education, occupation, income, and family structure — despite the fact that they have not, in the latest data set, affected viewing — can affect the outcomes instead of affecting the viewing. Similarly, encouragement to view can affect the outcomes instead of the viewing. Furthermore, reverse causality is possible. The argument that aggressive kids like to watch violent programs is not false; it's true. It just isn't as true as the reverse.”

Remedies

“The remedies are, first, statistical controls of background variables. We are covarying or partialing those variables wherever we can, and we did so in (the previous) study. A second remedy is the temporal control of directional effects. We are essentially doing cross-lag comparisons, but for ordinary people who speak English, that means simply you ask, from time 1 to time 2, which variable affected the other more, and if you can meet the assumptions of very stable behavior, as we do, and very reliable data, then you can begin to make some causal infer-

ences from the correlational data.

“I have to stress again that these correlational data from the previous study represent *Sesame Street* viewing, 75 percent of which occurs without an adult in the room. There is immense potential, perhaps, in covieing with kids, but our data say that parents are not taking advantage of that opportunity. Remember that this is a broad socioeconomic sample; it is not any particular group. So we are looking at things that are primarily *Sesame Street* effects *per se* and not ‘mom’ effects. The finding is that frequent viewing of *Sesame Street* at age 3 predicts a higher vocabulary and better prereading scores at age 5. There are some other effects in the data, and there are some positive predictions that didn't come out. Still, this finding is from a sample of 300 children, and I think it's powerful and worth hanging on to.

“In the same population, frequent viewing of adult commercial programs, mostly sitcoms and a few action-adventure shows, predicts both lower scores on vocabulary and lower scores on prereading tests. So now we split out viewing of television, and (with apologies to George Gerbner) we find it isn't one big ‘cultivation’ effect. In each case, the comparison is between frequent and infrequent viewing of the same kind of program, not between viewing one vs. another kind of

program. It's not a tradeoff. It turns out that the individuals who watch a lot of *Sesame Street* go to cartoons next. They go from there to sitcoms and some action-adventure programs. Viewing *Sesame Street* does not inoculate you against an appetite for bad television. But what the *Sesame Street* viewers do is to move through this normative progression earlier than the nonviewers. Maybe that's not an advantage, but I think it is.

"Now, I'm going to show you some tape from the new study. I have to give you the setting. This is a four-year-old whose family has come to our office in Kansas City, Missouri, for the first time (they're committed to come in annually for four years) and is getting the full office treatment — two-and-a-half to three hours of assessment for the child, interspersed with breaks, of course, and long interviews and forms for the parent. Maybe. . . in this tape there are the beginnings of a hint of an answer to Aimée's first question: What is it that mothers do? So I want you to watch this one — it's very fast, you have to be really sharp to catch it. Watch the mother's response, as well as the child's response, when in the middle of a play session with *Sesame Street* toys, the television in the corner comes to life and begins to show something from the *Sesame Street* video series."

As the tape played, Wright noted the key portion — when the child saw *Sesame Street* on the TV screen — and said, "Notice what he's doing — he's holding up his Cookie Monster, and he's saying, 'This is where you belong,



Professor John Wright, University of Kansas

right here on the screen." When the tape ended, Wright continued: "Note the mother's initial prompt and final approval of the child's having made the connection. All right. That's unrehearsed, unsolicited, but I can't say it's unedited. We did select it."

Time and Media Use

"Now, I just want to give you a little hint of the outcome data. Everything is being funneled through the children's use of media and of time. . . . We are interested in the children's time use, their print media use, and their watching of all different kinds of programming. The outcomes we're looking for are a mixture of *Sesame Street* goals.

Language and authorship is of particular interest to us because we found that vocabulary effect in the previous study, but we're also interested in the idea that children can create text as early as in preschool, and indeed it's a common exercise there.

"Of course, we are interested in pre-reading skills and number knowledge, but we're also interested in school readiness, and in attitudes toward school. We're wondering if *Sesame Street* doesn't help foster an attitude of at least curiosity, if not impatient eagerness to become a school-age person. We're going to look at social knowledge, and with the help of Aimée and others, we're probably going to have a shot at finding effects of *Sesame Street* on kids' understanding of interpersonal relationships and social reality.

"There are some other cognitive skills we're going to examine. We're going to

talk about self-concept, of course, and a couple of items that may be moderating variables. For example, we think critical viewing skills are cultivated by watching *Sesame Street*. An awful lot happens, and you have to be able to tune in and tune out with or without attentional inertia. And finally, we'll look at *Sesame Street* knowledge itself, and here, maybe we'll be able to smuggle a little formative research in under the summative research banner.

"I have no results for you, and in fact, we are open to — and it's not too late for — suggestions as to how to improve our overall strategy. We'd be happy to hear about any hot instruments we can use, especially for kids who are just three and five, respectively, which our kids will be by the time we can put any of your ideas into practice. Thanks for listening."

Mabel Rice

Educational Effects of Sesame Street Home Videos

“T he development of home videocassette recorders is a major technological innovation of the last decade. This new equipment has been especially appealing to families with young children. In 1988, three out of four households with children under age 18 had VCRs. The invasion of the VCRs has been so quick, within less than 10 years, that we do not have information about how children and their families are using these machines and cassettes. We suspect that there are likely to be differences between broadcast viewing and cassette viewing insofar as the cassettes allow for planned viewing, repeated viewing, targeted viewing of favorite parts, and selective use of the video medium for specified tutorial purposes. . . .

“It’s quite likely that both parents and educators will come to look for videocassettes designed to develop particular areas of competencies in the child viewer. The *Sesame Street* home videocassettes promise to play a major role in this new market. There’s been considerable demand for the 14 cassettes that are now available, and we have an overhead (a cartoon) to testify to the cultural acceptance of this phenomenon. In the first frame, it says, ‘Welcome to the *Sesame Street* Home Video.’ The second frame says, ‘The whole gang’s here — Bert, Ernie, Oscar, the Cookie Monster.’ The next frame

says, ‘So, kids, let’s all sit down and read stories. Ready? Let’s have some fun.’ The last frame: Daddy says, ‘Matthew, I think you’ve made your mother watch that tape too many times,’ and Mother rambles on, ‘And here’s Big Bird.’ And the kid is saying, ‘Aw, Dad, don’t turn her off yet.’

“In our current study, the first question is: How do parents of preschool children envision the use of home videocassettes? The second question is: How do the children and families actually use the cassettes in the home setting? And the third question is: What do preschool children learn from the *Sesame Street* home videocassettes? The research strategy. . . was to conduct a one-year empirical study in which we collected multiple measures from 20 preschool children, ages two through five, and their families. All these families had at least one VCR, and several had more than one.”

Gathering Data

“There are three major components of the work. The first component is data from the families about their use of cassettes. The second component is observational data collected on two occasions in the homes when the children were actually viewing the cassettes; we were especially interested in the children’s behaviors at targeted

times in the cassettes. The third component is data about the children's understanding of the content of the cassettes and their acquisition of specific skills, such as alphabet and number recognition, that could be influenced by viewing. Children's skills were measured before and after the home viewing.

"The procedure for a given family was to come into the laboratory for an initial interview and pretesting of the preschooler. Then the families were given four *Sesame Street* videocassettes to take home and view as often as they preferred. On two occasions over two months, observers went to the home to make notes about what the children were actually doing when the cassettes were on. Finally, the families and the children returned to the laboratory for another questionnaire and individual testing of the children.



Researcher Mabel Rice, University of Kansas

"Four *Sesame Street* videocassettes were selected for study. . . . They all share the same basic strategy for production. The bulk of the program consists of *Sesame Street* library bits of proven appeal. The old bits are woven into a new context by the development of new wraparound material — that is, new footage that creates a conceptual framework for the familiar bits. We were interested in the appeal of the new footage as well as the effectiveness of the familiar content in this new cassette format. We selected two cassettes that focused on alphabet letters using two different formats. The first is 'Learning About Letters.' In this tape. . . familiar alphabet bits from the *Sesame Street* library are simply strung together. . . . The second tape is 'The Alphabet Game.' In this one, new wraparound material introduces letters in the context of a game show. Contestants need to bring an object that begins with the letter. . . . The third tape is about numbers, and it's called 'Count It Higher.' It also uses a media programming genre, that of MTV, to introduce familiar number bits. . . . The fourth tape is entitled 'I'm Glad I'm Me,' and this one focuses on self-esteem as opposed to the more conventional cognitive skills. This one is also of interest because it sold very poorly. . . ."

Some Preliminary Findings

"We have now collected all the data and are in the process of initial data analyses, and I have some highlights of our early findings to share. The first one is that the children's favorite cassette by a wide margin was 'I'm Glad I'm Me' with 'Count It Higher' as a

distant second. (The 'Body Parts' bit . . . was the children's favorite bit.) In contrast, the parents' and the research assistants' favorite cassette was 'Count It Higher'; only one parent — and none of the research assistants — picked 'I'm Glad I'm Me' as a favorite.

"The second finding is that the children watch the tapes from beginning to end. Somewhere around age four to five, children are often allowed to operate the remote controls, but even older preschoolers do not use the remote controls to do selective viewing within a cassette; they let it play and ignore the parts they don't like as if it were broadcast. The third finding is that children use cassettes as they engage in other activities — they play with toys and other children, they eat, and sometimes they sleep while the cassettes play, even with an observer present.

"The fourth finding is that a predominant activity when viewing is talking. Children talk about the cassette, they label the characters and things, and they repeat parts of the songs and dialogue. The parents also comment on the tapes and relate the tapes to other experiences of the child. This finding appears to replicate the findings of an earlier study with Lemish, in which we argued that television can function as a talking picture book for preschoolers and their families. This possibility may be even richer for videocassettes insofar as the families can become very familiar with the content, just like a favorite book. The fifth finding is that virtually all the parents believed that *Sesame Street* cassettes provide educational information and are a very effective teaching tool. At the same time, the parents were markedly ambivalent about the use of videos in preschool or day-care settings. When we asked them about that, half of them just bluntly said

'no' to that use, and those who said 'okay' had many qualifiers attached.

"The sixth finding is that the parents tell us that they think their children's learning is enhanced by viewing. They believe that viewing reinforces what the children are already learning, such as vocabulary — body parts in particular — letters, numbers, being unique and special. We have considerable data pertinent to this point in the pre- and post-viewing measures of the children's skills. We do not, however, have those data analyzed. Parental observations about vocabulary, however, are consistent with the findings of an earlier study we did at the Center for Research on the Influence of Television on Children . . . in which earlier viewing of *Sesame Street* did contribute to children's later vocabulary acquisition.

"Let me insert a couple of points here about coviewing and encouragement to view. The sharpies among you will notice that if you have parents talking about *Sesame Street*, it is inconsistent with the earlier report (by Huston and Wright) that only about 25 percent of the viewing is coviewing. I think it's important to make a distinction between concurrent viewing and comonitoring. What we find in our home observational data is that families, mothers in particular, pop in and out. They would not meet the definition of being a coviewer, but they did pop in and out in a comonitoring kind of role, and it's during those times that they're doing the talking. There's another thing I want to add, and that is that the children's ability to learn new vocabulary is something that we can also observe in laboratory settings, where it's just the child looking at the set. So the vocabulary effect does not seem to be dependent upon a coviewing adult. (It certainly could be enhanced by a coviewing adult.)

"The seventh finding is that the parents have many suggestions for cassette production, including the following: First, they want tapes designed for particular ages; so their comment is something like, 'We'd like a short tape for the young children, longer tapes for older kids' — that sort of thing. Second, they expect all new material for videocassettes; familiar characters can appear, but the content should be different from broadcast programming. Third, they want greater access in the rental market to educational tapes in general and *Sesame Street* in particular. Fourth, they suggest topics for tape content, including communication and social skills, families with divorce, more self-esteem concepts, interracial relations, friendship, telling the truth, troubles with school, how to deal with handicapped people, and how to deal with strangers. This list of social topics may be because families assume *Sesame Street* is an effective cognitive teacher, and they want help on the socialization aspects as well."

Paradoxes

"Overall, these preliminary findings reveal some interesting paradoxes in this early stage of videocassette use:

- "First, parental and child preferences do not coincide. Given that marketing is likely to be aimed at parents or teachers, it will be necessary to convince them to buy or rent what has appealed to children.
- "Second, the technology of the new medium allows for new ways to access favorite content; yet young

viewers do not take advantage of this opportunity, but instead watch a tape like a broadcast, from beginning to end. This suggests that the opening material is especially important as a means of recruiting and maintaining attention.

- "Third, parents want new content for their children to watch over and over again. Perhaps this is because parents feel they are not getting full value for their investment if it is not new, or perhaps it is because parents associate novel content with new technology.
- "Fourth, parents regard highly the educational value of the *Sesame Street* cassettes, yet they have reservations about their use in educational settings.

"Finally, a dominant activity as children view is their talk about cassette content, as well as parental comments. To reemphasize a point that Dan Anderson made, the allegedly passive medium inspires considerable interactive communication among children and between children and adults.

"We believe this study is a small contribution toward an information base indicating that the VCR heralds new uses of the medium with powerful potential for the development of well-designed, focused-purpose educational videocassettes. Just as we now expect libraries of books, we will soon expect libraries of cassettes, targeted for different ages of children on different topics. Their actual use, however, will be filtered through the pattern of familiar routines of families, schools, and children."

Valeria Lovelace

*Continuing Evolution of the Sesame Street Curriculum:
The Role of Formative Research*

“It’s exciting, it’s challenging, and sometimes it’s brutal, but I want to share with you what curriculum development on *Sesame Street* is all about. Over the years, the *Sesame Street* curriculum has grown, but at its core remains the first curriculum, developed in 1968. Each year, the curriculum has been reviewed and revised to more fully prepare three-, four-, and five-year-olds for school. Today, we have over 200 goals on *Sesame Street*, and we’re very much up-to-date. Instead of counting to 10, or to 20, we now count to 40 on *Sesame Street*. Instead of penmanship, we emphasize authorship and appreciate scribbles as children’s recognition that thoughts and feelings can be expressed through writing. We recognize the importance of storybooks and storybook reading to children’s reading-skill development and comprehension. This season just a few weeks ago our first lady, Barbara Bush, read *Peter’s Chair* on the set of *Sesame Street*, and our viewers will see it soon.

“The curriculum evolves and changes because research in child development and education evolves and changes. We know a lot more about reading and writing and math and how children process information, and the *Sesame Street* curriculum has incorporated these changes. In August 1988, Norman Stiles, head writer, and Joan Cooney, chair-

man of CTW, made a historical ride. Between the closing of the elevator doors on the fourth floor and the opening of the doors on the first floor, the direction of curriculum development for the 21st season of *Sesame Street* was determined. After months of reading articles on the destruction of our environment and articles on the lack of basic geographic knowledge in our country, Joan and Norman left the elevator committed to the need for an action plan for preserving our environment. They also agreed that lessons in geography should be created to prepare children for a school environment that will stress global awareness and understanding.

“Hearing about this important elevator ride, Dulcy Singer, our executive producer, and Lisa Simon, our producer, gave their full support to this new initiative. And Gerry Lesser, our chairman of the Board of Advisers, who has had geography on his list of suggested topics for the past seven years, was absolutely delighted. As researchers, Margarita Perez, Pimon Ruetrakul, and I were amazed when Norman declared at our research production planning meeting, ‘If we can teach children letters and numbers, we can teach children shapes of continents, states, and countries.’ Given the fact that ‘geographic illiteracy’ was coined to describe adults who did not

know where specific places in the world were located, we were less optimistic than Norman. Nevertheless we put our energy into exploring all facets of this area and rose to the challenges of curriculum development."

Exploring the Territory

"The first phase of our work involved the identification of experts, articles, curricula to help define what geography is. We found that mapping skills and land forms did not appear in preschool, first-grade, or second-grade curricula. We also found that geography, when it was talked about for preschool curriculum, was limited to the neighborhood and personal space. Since the neighborhood is already a part of our *Sesame Street* curriculum, we searched through the geography and child-development literature to determine what preschoolers knew about mapping, land forms, and the identification of specific countries and continents. After reviewing the literature, we launched three germinative research studies to explore three-, four-, and five-year-olds' knowledge of geography concepts.

"In the first study, we explored mapping skills. We gave children a small map in their hands. And at first, when we piloted this, I thought that if we just gave the children a little map without a line drawn on it and then showed them an actual full-scale model of a place, that they could maybe look at the map and move a little Monopoly piece from one place to the other. After our initial pilot, we decided we needed a red line. So we put a red line on the little map, and we put a red line on the model, and with a little coaching from the researchers, the children were indeed able to go from place to place and also to find a secret *Sesame Street* character. We learned a lot from this

task, but if I had to do it over again, I would never pick mapping skills as a beginning point for exploration of teaching geography.

"Next we explored children's understanding of their environment. This may disturb some of the people in New York, because in the majority of cases we're doing research in New York, and we asked the children, 'Where do you live, what state do you live in?' The majority of the children that we talked to did not know that they live in the State of New York. More profoundly, we asked them, 'What country do you live in?' — and none of the children knew that they lived in the United States of America.

"We explored children's knowledge of land forms. We asked them to define what a mountain is, and a wonderful little three-year-old said, 'A mountain is the woods going up a hill.' We asked children to look at clay models, we asked children to look at pictures, and we also showed them video that included mountains and lakes and rivers. From this research, we learned that we couldn't put any object into the picture if we were trying to get children to recognize land forms. For example, if we showed children a lake and then there was a boat in the lake, the children would really focus in on the boat and would completely miss the lake around it."

A Humble Video

"So in response to Norman's idea about three-, four-, and five-year-olds learning the shapes of countries and continents, the research department humbly developed a video. It was eight to 10 seconds long, and what we actually did was shoot black-and-white pictures of maps of a couple of countries and states and then add a voiceover that

said, 'This is a map of Hawaii,' or, 'This is a map of Africa,' or, 'This is a map of Alaska.' The labeling was repeated two times, and immediately after viewing, we asked the children to select which one of the maps was Africa or Hawaii.

"To our surprise, we found that we got significant increases after only one exposure to this particular stimulus. This spurred us on. We felt that, in fact, Norman wasn't as crazy as he had

to the top level, we weren't ceiling out. And in fact, the threes were really enjoying the activity and doing it well.

"When we circulated our research documents during the formative phases, we got feedback from everyone — our advisers, our geography advisers, we got feedback from CTW staff, writers, and producers. After looking at that surprising kind of finding in terms of children's knowledge, many of the



Valeria Lovelace, Sesame Street research director

appeared to be in the beginning and that, in fact, three-, four-, and five-year-olds could do some marvelous things. In our initial data, we found that the threes were doing just as well as the fives. So it wasn't a matter of a developmental trend — we weren't really going

writers and producers said, 'Wait a minute. Is this really geography? Are you really teaching geography, or is this something just very rote? We don't really feel that you're getting at the real thing called geography.'"

Something of Substance

"So in the research department, we went back to the drawing board. We went through the 3-2-1-Contact inventory, and we found an interesting segment. In that segment, it had Australia and, inside Australia, it had videos which showed the animals that lived in Australia. We took that particular segment out and showed it to three-, four-, and five-year-olds, and after the children viewed it, we showed them the shape of Australia, and then we asked them, 'Which one of these four animals lives in Australia?' And the children were able to pick out the animal they had seen in the video. Armed with this finding, we said that, in fact, we can teach three-, four-, and five-year-olds some elements of geography, and we can give them something of real substance.

"After our annual curriculum seminar in June, our advisers came in and supported this new direction, and they provided guidance for the implementation of our geography goals. We're just in the studio now, and we only have a

few segments produced, but already we've taken one out to test it with the children. In our initial baseline research we found that, when we showed just three shapes and said, 'Which one of these is Africa?', only five of our 30 children were able to correctly identify Africa. After seeing the segment that I'll show you now, 16 out of 30 children were able to identify Africa. But more importantly, I want you to really look at the joy and the excitement and the thrill of preschoolers who are learning geography. This tape will show you a little bit of the process I've talked about. . . ."

After showing the taped segment, Lovelace concluded: "The curriculum development process is a collaborative process between research and production. It depends greatly upon basic research and the expert counsel from our advisers. It involves adaptation to the conventions of television, and it requires ongoing research prior to and after production. After 20 years, our show remains experimental. I hope you can now understand how."

Keith Mielke

Other Current Research

To conclude the session on current *Sesame Street* research, Mielke briefly mentioned three additional projects:

- A series of focus groups was exploring how preschoolers' mothers use children's television and how this use varies by level of video technology in the home and by the mother's work status and reliance on day care. This study, conducted by Research Communications Ltd. with Valerie Crane as principal investigator, was funded cooperatively by several public TV stations, producers, and organizations, and it was administered under the auspices of the National Association of Public Television Stations.
- A synthesis of empirical research on *Sesame Street* that deals with cognitive variables was just getting under way at ETS, with Richard T. Murphy as principal investigator.
- A major survey of mothers of preschoolers at the poverty level about the role of *Sesame Street* was completed in the fall of 1989 by Yankelovich, Skelly and White/Clancy, Shulman with Miriam Schiller as principal investigator. Mielke noted that in the 1970s, the

Yankelovich organization had conducted four inner-city penetration surveys for *Sesame Street*; this latest survey was designed to examine the extent to which the program was being viewed in low-income households after 20 years on the air. This time, instead of concentrating on four inner-city communities, the survey sample was nationwide and included suburban and rural areas as well as urban centers; it also covered poverty-level Whites as well as African Americans and Latinos. Early returns, Mielke said, indicated that:

Sesame Street's viewership among preschoolers at the poverty level held up across two decades of social change: 92 percent had viewed the program within the previous two weeks, 89 percent the previous week — and this was true for all three population groups.

A "second generation" effect was revealed: Forty percent of the mothers surveyed had themselves watched *Sesame Street* as children, and they were more likely than their nonwatching peers to discuss the program with their children and to give it high marks.



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BEST COPY AVAILABLE

INTERNATIONAL RESEARCH

*Gerald Lesser of Harvard's
Laboratory of Human Development
has been Sesame Street's academic
adviser from the outset.*

Gerald Lesser, Moderator

"Good afternoon. This panel is devoted to special research that has emerged from our international coproductions. We thank our colleagues from abroad for joining us. To introduce them to you, here is Lu Horne, CTW's vice president and executive producer in the International Department. He has been with CTW from its earliest days, and he has worked closely not only with the four coproductions that are represented here today, but with every one of our 15 coproductions around the world — a rather remarkable and stunning record of both skill and endurance, I think. Lu Horne."

Lutrelle Horne

Introductory Remarks

“Before my colleagues begin their presentations, I think I should briefly explain how the 15 adaptations of *Sesame Street* work. Advisers from the adapting country set their own curriculum goals. We at CTW provide consultation throughout the production. We explain the philosophy of *Sesame Street* and the collaborative process of researchers and producers working together. The coproducers cast the performers and decide on the setting and the counterparts of Big Bird and Oscar.

“They also produce live-action films and animation. This material is blended with the broadcasters' selection of material from *Sesame Street* consisting of Muppets, animation, and live-action films. Of course, the materials selected from *Sesame Street* are dubbed into that country's language. No *Sesame Street* studio segments are ever used in an adaptation. When the adapted show is completed, it reflects the national character of that country. And now I'd like to show you some film and tape from the adapting countries, a presentation prepared by Joan Lufrano of our international department at CTW.”

Horne showed segments from the four coproductions represented on the program, then introduced the panelists — Peter Levelt, research director for *Sesamstraat*, the Netherlands; Abdelkader Ezzaki, professor of

education at Morocco's University of Mohamed V, reporting on *Iftah Ya Simsim*, the Arabic coproduction; Maria Emilia Brederode, education director for Portugal's new *Rua Sesamo*; and Nail Sahin, psychology professor at Middle East Technical University in Ankara and research director for Turkey's *Susam Sokagi*.



Lutrelle Horne, CTW Vice President and Executive Producer, International Productions

Peter Levelt

*A Review of Research on International Coproductions
of Sesame Street*

“Research is one of the characteristics of *Sesame Street* and its coproductions that make them so different from other programs: The producers are convinced, initially, that research is essential. There is a strong interaction between producers and researchers in the international coproductions. The international research literature bears witness to this interaction. I would like to demonstrate to you, from this international research literature, how *Sesame Street* has succeeded in achieving a diversity among unity.”

Goals

“The formulation of goals is the most important common characteristic of all coproductions. It is an expression of views about children and the possibilities of television. It is also the expression of a sense of responsibility. A producer who formulates a goal is convinced that he or she is activating something in children, and that he or she is responsible. This is a very optimistic view of the potential of children's television — a view that TV does not go in one ear (and eye) and out the other. It is also an optimistic view of children. It's not only whether the child's family is rich or poor that determines a child's fate. TV also can offer experiences that are valuable in life.

“Goals are formulated in very different ways in the various coproductions. I shall present a number of examples:

- “Many coproducers tend to emphasize the importance of the goal statement as a specific guide to writers. They work on the following principle: If you believe children can learn in a direct way from television, then goals could be explicitly formulated in terms of desired behavior. Accordingly, each segment is written to achieve at least one behavioral objective. The Arabic *Iftab Ya Simsim* is an example of this: They work with a list of 147 very detailed goals. Other coproducers, however, interpret the function of the goal statement more broadly, like a kind of open curriculum. The German *Sesamstrasse* is an example of this: They opted out of detailed formulation of goals.
- “There are great differences in essential emphasis. Is the program meant to prepare children better for school or not? This depends very much on the educational systems in the various countries. In the Federal Republic of Germany, and also in the Netherlands, this is not considered to be an important task. In the Netherlands, all children go to school when they are four years old, whereas in Arab countries, where *Iftab Ya*

Simsim was produced, hardly any do. It should, therefore, not come as a surprise that, where school preparation is absent as a goal, there is a shift toward the stimulation of emotional and social development.

- "Considerable differences in individual goals are also found from country to country, depending on important social values, or on judgments concerning children's needs.

"We can see important cultural and educational values demonstrated in Canada. Canada is a bilingual country, and consequently the goal statement of the Canadian coproduction has a strong commitment to bilingual education in French and English. The appreciation of differences among cultural groups also is given very high priority.

"The Israeli coproducers of *Rechov Sumsum* are also committed to promoting cultural diversity, and they introduce Arab characters into their program.

"One of the objectives of the Arabic *Ifrah Ya Simsim* reflects an awareness of the increasing importance of the role played by technology in the development of the Arab states.

- "We also see large variations among the coproductions in emotional and social values mirrored in the goals, often based on the child-rearing situation and children's needs.

"The Spanish *Barrio Sesamo* demonstrates this very clearly. The child-rearing situation was analyzed, and it was established that children generally are brought up without much freedom and with sex stereotypes. Breaking through these limitations

was formulated as the most important goal of the program.

"The German *Sesamstrasse* gave high priority to recognizing conflict situations and their solutions.

"The Dutch *Sesamstraat* tries to instill feelings of affection and succeeds in doing so.

"In the third series of the Latin American *Plaza Sésamo*, the emphasis was strongly shifted in the direction of the development of social skills within the context of the family.

"The Israeli *Rechov Sumsum* also assigns a highly responsible role to the child as a contributing member of the family. This is a degree of responsibility which many Western countries might regard as beyond the level of young children.

"Although the formal objectives of the different international coproductions vary considerably from country to country, there is one goal that they all have in common: to produce programs of superior artistic quality. This reflects a specific educational objective: to instill good taste in children. The Dutch curriculum makes this aesthetic aim explicit, but every coproduction seeks to involve only the best authors, writers, producers, and directors in its project. . . .

"Of course, the statement of goals should lead to these goals being expressed in the program. Sometimes the proportions of segments dealing with each particular goal are determined beforehand, as in the Arabic *Ifrah Ya Simsim*. Canada reports in detail which goals have been dealt with. In other countries, accents are shifted each year if it appears that

certain goals have not been realized, or because the importance of certain goals requires greater attention. In the Netherlands, for example, some themes were presented more frequently after the publication of a content-analysis study of what actually was included in the previous year's programs.

"An important task of content analysis can be the discovery of unintended effects. I discovered a wonderful example of this in the German *Sesamstrasse*. The goal 'breaking down sex stereotypes' had resulted in a series of good segments, but further analysis revealed that many other segments had strengthened the stereotype. The Dutch approach is to make certain that the content of all segments is compatible with all goals."

Appeal

"*Sesame Street* attempts to present TV that is instructive as well as appealing. Examining program appeal in various countries, we must make a distinction between audience ratings and attention scores. If the program is broadcast daily in a regular time slot, high ratings are achieved among the target group of three- to five- or six-year-olds. Ratings of 50 percent are quite common. These diminish among older children. . . .

"The appeal of various segments and formats has been researched in many countries, often using Ed Palmer's distractor method. The options of using real people, puppets, animations, or nature films — or using children or adults — are still being studied to see if they captivate. The results are different in different countries. It was striking that puppet segments were not so successful in Jamaica as elsewhere. The success of using children and children's voices and songs is not universal. Male adult voices are often unappealing. . . .



Researcher Peter Levelt of The Netherlands

"Of importance are Bouchard's results from Canada that 'the rhythm and editing of the program as a whole are more important than any particular segment; the same segment placed between different segments will attract varying attention.' Nevertheless, she concludes that an unappealing segment remains unappealing.

"It is of great importance that every coproducer conducts appeal research, especially at the beginning. . . and if the competition from other programs is strong. There is, however, a danger. We should not feel compelled to include only the segments of highest appeal; sometimes our educational priorities are more important.

"More and more reports are reaching us that changing the audio at the beginning of a segment is of great

importance in regaining attention to the screen. Many children are continually deciding for themselves, 'Is this interesting enough to watch?' I find this one of the most pleasing results of the attention research. It shows that children are not unwitting victims of television but independent little decision makers. This situation is preferable by far to the well-known 'zombie viewing,' the situation in which an attention level of 100 percent is achieved.

"There are indications that children in different countries, with different TV experience, make different decisions. Some studies show an hour to be too long for many children. It will therefore not come as a surprise that not all countries strive for a one-hour program. Many are half-hours. The Dutch program is 15 minutes daily, and it works well."

Conclusion

"I have mainly been speaking on the goals and appeal of the program. The statement of goals is extremely informative. It shows the common educational philosophy of *Sesame Street* in all its coproductions. It also shows the great diversity which *Sesame Street*, as program, and Children's Television Workshop, as company, have stimulated. . . . The appeal studies are interesting because they clearly show that *Sesame Street* has succeeded in being educational as well as appealing.

"I have not dwelt on all the international research carried out. Much of it is formative, mainly aimed at the design of specific segments. However, not very much research has been carried out into the ultimate result: what children learn. Ball and Bogatz know the reason:

It's just about the most difficult type of research. It demands an effort too great and too expensive for each coproduction. I would, therefore, like to make a proposal.

"There are many coproductions, either in preparation or ongoing, in countries with varying cultures and ethnic groups and/or racial minorities. I am thinking of such coproduction newcomers as Norway, Turkey, Portugal, Brazil, and perhaps the Soviet Union, and such ongoing countries as Israel, West Germany, and the Netherlands. *Sesame Street* itself and most of the coproductions formulate important goals concerning respect for other people, cultures, and languages.



*Professor Jeanne Chall,
Harvard Graduate School of Education*

These are expressed by using actors and children from all types of background, explaining different cultural values, and using different languages within one show.

"Slowly but surely, especially in the USA and the United Kingdom, a method has been developed and knowledge acquired concerning the origin of ethnic consciousness and racial prejudice, and I understand that reducing racial prejudice will receive additional emphasis on the American

Sesame Street next year. Couldn't we set ourselves the 'goal' of evaluating the effect of a number of coproductions on ethnic consciousness and the breaking down of racial prejudice? Couldn't this take place in the sphere of international cooperation under the enthusiastic stimulus of CTW?

"... As far as I know, there has never been joint study among coproducers. It would be wonderful if *Sesame Street* were to give itself such a birthday present."

Abdelkader Ezzaki

Research on Iflah Ya Simsim, the Arabic Coproduction

“In this brief presentation, I would like to address the question of the linguistic impact of *Iflah Ya Simsim*. In the absence of test data on children themselves, and given the importance of varying the sources of information. . . I found it useful to examine the reactions to the series from a sample of experienced primary school inspectors,” Ezzaki began. Then he described the panel of 20 Moroccan educators, each with nine to 15 years of experience working with children, that was assembled to assist in a content analysis of the Arabic version of *Sesame Street*, which is regularly televised in 14 countries. The panel of educators was shown three sample programs, then engaged in a brainstorming session, examining the objectives of the different segments. He continued:

“Here, the idea was to give the respondents the opportunity to familiarize themselves with the series and to get the general drift of *Iflah Ya Simsim*. Then we had the second viewing of the same three shows for a closer examination of their content, and also their form. And finally, we had. . . a semi-free comment-writing session. The subjects were given a sheet of paper and were requested to write evaluative comments along different dimensions. It was very much like a sentence-completion task. They were given key dimensions about which they were asked to

write free comments. Then a content analysis was performed on the responses with the view of identifying recurrent themes or possible benefits of the series, and in this report, I would like to zero in on the linguistic benefits as perceived by these 20 respected educators. So these are some of the themes that I was able to identify through the content analysis.”

Making School Language Familiar

“The most important — and indeed, the most recurrent — theme or benefit reported by the respondents was the familiarization of the child with the school language. Comments to this effect included, for example, ‘The series brings the child closer to school language,’ or, ‘The series bridges the gap between the child’s everyday language and the language of his subsequent schooling,’ and thirdly, ‘The series initiates the child in academic language.’. . . So this theme is central in any project of children’s educational television — or any preschool activity, for that matter. For example, the main justification for reading to children is (that) it facilitates the acquisition of academic language and, therefore, the acquisition of school learning.

“However, in the Arab world this theme or benefit is particularly impor-

tant. Unlike many other contexts, the sociolinguistic situation in the Arab world is characterized by... the coexistence, side by side, of two language varieties — classical Arabic which is the language of the school — the language of literacy, the language of formal communication — and alongside that, we have the language of everyday communication, of informal communication. There is a wide gap between the language of home socialization and the language of the school, and... according to our respondents, this (program) contributes significantly to the bridging of that gap."



Professor Abdelkader Ezzaki, University of
Mohamed V

Expanding the Use of Standard Arabic

"Another recurrent theme shown by the content analysis is that the series contributes significantly to what some of the respondents called 'the liberation of standard or classical Arabic' from the traditional mold of serious topics and formal communication and, therefore, reinforces the use of school language in amusing interactions. Comments include, for example, 'The series liberates standard Arabic from serious discourse'; secondly, 'The series makes standard Arabic the language of joking and amusing stories'; thirdly, 'The series facilitates the children's perception of standard Arabic as a language of all kinds of communication.' The emphasis on this theme in the respondents' comments and in our analysis might sound unjustified or strange; however, if we refer to the sociolinguistic context of the Arab world, the importance of this theme can be appreciated. One of the difficulties associated with the spread of standard Arabic, that is, the language of schooling, is that it is perceived as the formal variety of communication, nothing more, or probably I should say, nothing less.

"In the world of educational television, the role of a series like *Iftah Ya Simsim* is that they help the language of school learning break out of its limited mold and become, therefore, the language of fun as well as the language of serious communication. The style and philosophy of CTW — and that is the philosophy of teaching through fun — does not merely serve the cause of learning, but also the cause of classical Arabic, the perception of classical Arabic. It should be pointed out, however, that attempting to extend standard Arabic to 'fun' communication is not an easy enterprise...."

Rich and Varied Vocabulary

"A third theme revealed by the respondents' comments is about the vocabulary. It is felt that one of the most important ways in which the series is helpful to children is the fact that it teaches a wide variety of vocabulary items. The respondents included comments like, 'The series is good because of its lexical wealth and variety.' I was pleasantly surprised to see there was no negative reaction from the Moroccan educators to the vocabulary content. There was no feeling that the vocabulary content was limited to the Mideastern or the gulf region. In fact, it was felt that the vocabulary was adequate for children in the North African part of the Arab world as well as the rest of the Arab world.

"In conclusion, it can be said that *Iftab Ya Simsim* has the necessary

ingredients, not only to make a significant contribution to the educational growth of Arabic-speaking children, but also to serve the cause of standard Arabic, that is, the language of school learning and formal communication. If it is still unnatural to socialize children in standard Arabic, I would like to argue that this situation is not doomed to remain as it is, and the gap between the home language and the school language does not have to remain so wide. The function of what we call 'status language planning' is exactly to promote a given language or a given language variety in a given society, and one of the best ways for the promotion of standard Arabic, that is, school language, is through quality educational television and massive, professionally made television programs of the type of *Iftab Ya Simsim*. . . ."

Maria Emilia Brederode

Research on Rua Sesamo, the Portuguese Coproduction

“In Portugal, we have just finished production, and our first series of *Rua Sesamo* is going on the air on Monday. During the preparation time, we did a lot of formative research. . . and it proved very useful — we even invented a new methodology out of sheer accident — but I thought our experience in this field wouldn't bring anything new for you. . . . So I decided to do a more personal account of our experience, linked to a more social analysis of the context in which it was done.

“What I asked myself was: If I were to start today, what would I do differently? And this question made me more aware of the differences in the time context, in the institutional context, between the launching of *Sesame Street* by CTW in 1969 and the launching of our *Rua Sesamo* in 1989. . . . I remember that in June 1987, I had just come out of a very hectic experience in the creation of a new school of education, and I was counting on spending two quiet years just reading and writing, and I had asked the Ministry of Education, and it had been granted to me. Then the invitation came from RTP, which is our television network, to become education director of the Portuguese version of *Sesame Street*, and although I asked for the usual few days of reflection, I really did not hesitate at all. And also the minister of

education was not very surprised at my sudden change of mind, and he allowed me to jump again from the Ministry to RTP. I think this says a little about the magic of *Sesame Street* — that it is known all the world over as the most successful educational television program for children.”

Four Reasons

“Looking back and trying to find out what exactly interested me in participating in the project, I find three reasonable arguments and a less reasonable but probably truer one. My three reasonable arguments were:

- “First, in Portugal, although everybody in the educational field realizes and recognizes the importance of preschool education, only 30 percent of the children have access to preschool; therefore, Portugal's version of *Sesame Street* could have a compensatory role for the 70 percent of children who do not go to preschool and who need it most, because of course they are from the lower SES (socioeconomic status).
- “Second, the program was not to be only for Portugal, but also for the African countries where Portuguese is the official language. They are five very different countries, from big Angola and Mozambique to tiny

Guinea and the islands of Cape Verde and São Tomé. Here, in these countries, not only less than 10 percent have access to preschool education, but also they get to primary school, where the teaching is done in Portuguese, knowing very little Portuguese — so the failure rates are, not surprisingly, enormous.

- "The third reason has to do with the role television plays in the lives of the Portuguese children. In our research, we found out that 90 percent of the children from three to six were watching television every day. . . . Our children's programs are mostly imported, sometimes they are dubbed, sometimes they are subtitled — and that is, by the way, an important motivation for Portuguese children to learn how to read. Some of these programs are quite entertaining and technically well done, but they do perpetuate a lot of stereotypes — sexual stereotypes, but also, for example, I remember a case where a child was called dumb because he was not a good pupil, or another case where an animated character kept making fun of those poor human boys who had to go to that awfully boring place called 'school.' The fact that TV plays such an important role in Portuguese children's lives — for example, their bedtime is entirely dependent on television — and the fact that even the best programs are often intended for older children, or for higher social class children, or just not for children at all, was a powerful argument in joining the *Sesame Street* Portuguese coproduction team.

"My less reasonable reason, I think, was that I wanted to discover the secret of *Sesame Street*. How did it manage to

be so successful in the United States, to be in its twentieth year, to have influenced several generations of Americans, to have contributed to racial integration, to be successful both in the original version and in coproductions in so many different countries? So I suppose that subconsciously I was thinking that participating in the coproduction would allow me to discover the secret."

Getting Started

Noting that Lutrelle Horne had described the working relationship between CTW and its coproducers, Brederode said that, in the case of Portugal, CTW library materials were provided so the Portuguese could choose all the Muppet segments and half of the live-action and animated segments for their series. The other half of the live-action and animated segments was to be created by the Portuguese, who also would be responsible for dubbing all the CTW Muppet and animation segments from the American version. All-new studio segments were to be produced by RTP. First, however, she said, the Portuguese had to establish their own goals. She continued:

"For that purpose, we organized seminars which were attended by our CTW colleagues and by both creative people and educators from Portugal and the African countries. In those seminars, we tried to identify children's educational needs in these six countries. In the following months, I tried to organize all that information: I contacted specialists in different areas; I corresponded with the African participants, and so on; and I was worried, trying to take into account as many suggestions of the seminars as possible. Also I was trying, in a Latin way, to be very logical. I thought that if we had the American material, and if it suited

certain goals, then those goals should be in the curriculum, and there should be a rationale behind it. So, although CTW advised me to keep to a few goals, I spread and spread. So if I were to start today, I would certainly concentrate on fewer goals."

A Matter of Context

The difficulties involved in developing *Rua Sesamo* were compounded by matters of time and place, Brederode said. She contrasted the state of education in Portugal today with that in the U.S. in the late '60s, when *Sesame Street* was created. Then, *Sesame Street* was related to the War on Poverty and many efforts at compensatory preschool education; there was genuine interest in the preschool years, and there was a

fund of research knowledge to draw upon. In Portugal, the situation was completely different.

"Portugal," she said, "lived under a dictatorship for over 40 years. . . . In 1974, we had a democratic revolution, but during those 46 years of dictatorship, social sciences were looked upon with great suspicion. This may seem unbelievable to you but, for example, sociology courses were forbidden; a private college of psychology was founded before the revolution but (its) diplomas were not recognized officially until afterwards. So, of course, educational studies were very, very limited, and there wasn't much research. Since 1974, there has been a lot of interest in social sciences and in education, but 15 years is not such a long time to get a consistent body of accumulated knowl-



Maria Emilia Brederode, Education Director of Portugal's Rua Sesamo

edge, particularly at the very specific level that *Sesame Street* requires.

"Also, the public opinion and the educators' interest are not so much oriented to the preschoolers nowadays. Educational reform is under way, but it starts at the elementary school level. Most of the attention is to the adolescent years, because we are prolonging obligatory education from six to nine years. So . . . when I tried to get more specific knowledge on the goals (it was difficult). For example, educators with an interest in math would say, 'Counting up to 30, to 40, that's completely outdated; children nowadays, with computers, they can manage so much more.' Then we would go and check, and we were just not talking about the same children, because ours didn't manage up to 10. . . .

"As it happened, we did give more emphasis to two kinds of goals: to physical and social diversity goals, because we had the possibility of filming in so many different places, and to language goals, because that was one of the reasons for the project to exist — it was a need very much felt by all the participants in the seminars. The CTW material, being made for English, could not fit these purposes.

"For reading and writing, there was some previous research done that showed, for example, that children from lower SES did not appreciate reading and writing, nor did they understand what (these skills were) for. They would learn the letters, they would learn the mechanics of reading and writing, but they seemed to have a lot of difficulty in using them to express themselves, to communicate, or simply to understand the conventions of written language, and that is why in the animations. . . we decided to present the letters always integrated in words

so that children would understand from the beginning what letters were for."

Hindsight

"So it did turn out that we concentrated on certain goals, but I could have saved a lot of time and effort if, from the beginning, I were more aware of the time-and-existing-knowledge context and if I were more aware of our resources and limitations. So if I were to start today, I would certainly be less logical and more practical.

"Also, I would be more aware of the institutional context. Children's Television Workshop was created to produce *Sesame Street*; later it produced other television programs for children. This means that it is a specialized institution that was created from the very beginning to produce entertaining educational television programs for children — and this is a very, very lucky and unusual situation which I envy. If you have an educational institution producing programs, the natural tendency is to reproduce the models of the school situation, and you have to put a lot of effort into changing this and give a lot of weight to creative people. If, on the other hand, you have a general programs producer-institution as we do at RTP, the natural tendency is to reproduce the models of the general entertainment programs.

"Our *Sesame Street* version is being produced by our producer of general programs. There is, therefore, an institutional inheritance you have to be aware of. People working there tend to be suspicious of education, to look at it as something necessarily boring. They tend to see entertainment and education like a dichotomy that cannot be integrated. Also, the organization tends to separate conception from execution

and does not favor teamwork. And finally, the decision power is very much spread around: Although we had a producer in charge and a very interested and committed general coordinator of the project, with time I realized that some very important decisions — like when the director would be free to join the project — came from other sectors.

"So, if I were to start today, awareness of these institutional constraints would make me act differently in the sense of making these other decision-makers realize that this project requires a lot of teamwork, that people chosen to work in it have to be capable of teamwork and to be sincerely committed to try to do something different, that it requires a lot of time for every-

body involved to understand the differences between *Sesame Street* and other programs and to understand the natural tendency we all have for reproducing the models we are used to.

"Even though if I were to start today I would do it differently, I do think it was very much worth it, and I would like to thank CTW for all the support. . . . Our *Rua Sesamo* is going on the air the day after tomorrow, and we all hope it will be a big success. As to the secret of *Sesame Street*, I will tell you at the next commemoration."

Editor's note: As Dr. Brederode hoped, Rua Sesamo was welcomed with popular acclaim. Its second season is now being planned.

Nail Sahin

Research on Susam Sokagi, the Turkish Coproduction

“ I am happy to be here to share the experience of *Sesame Street*, and I have good news for you: We have started broadcasts about four weeks ago, and the Turkish *Sesame Street* receives very positive comments from all sectors of the society. Among our audience, junior high school students, high school students, and adults are very visible. Puppet characters became a favorite game for junior high school students; some of them nickname each other as ‘Cookie Monster’ or ‘Bert’ or ‘Ernie’. . . .

“Some of our institutional problems and the cultural context seem to be very similar (to Portugal’s), but I would like to add some specifically from the Turkish case — what it means to have *Sesame Street* on Turkish television. What were the reasons for people concerned about these issues to get to CTW and seek an agreement? Well, there are some statistics which are not very optimistic. . . . Turkey has 55 million population overall, and preschool children from one to six constitute six million. The population increase is, on the average, over two percent annually, and this figure is higher in the rural areas and poor neighborhoods. Half the population lives in small villages, occupying themselves chiefly with agriculture. The institutionalized preschool or equivalent education for younger children is

offered only in large cities covering two percent of the target age group; 98 percent of children do not have access to any preschool institution. . . .

“The state planning agencies made all the calculations, and they (say) that there are no chances for increased allocation of funds for preschool education in the coming decade. This means that the government has to find a compensatory way (to provide) preschool education, and of course, television comes to mind as the first remedy. This is a chance for the Turkish *Sesame Street*, as well as a great responsibility. At the beginning, you know that you are addressing at least six million children and that those children will reach primary school benefiting from your program. The other side of the coin is that although highly centralized control exists upon primary education and it is compulsory, there are serious regional variations in the quality and the type of education provided for children. For the equal opportunities that we have to achieve for our children, a basic education in preschool should be provided. . . .”

A Special Problem

“One problem which did not appear in the discussion of other coproductions (faces) Turkey. This problem became clear in our second curriculum

seminar. . . . The rate of illiteracy in the country overall is about 18 percent. But the illiterate sample, when studied closely, is found to reside in rural areas, and the overwhelming majority among the illiterates are females. The average age of marriage tends to be very young, which leads to the conclusion that there are young mothers who are illiterate having several children in succession. If we can find a way of getting the mother (to watch) with the child, we can teach them both.

"That (became) one of our goals, and I think we have achieved that. Just before I came here, I had reports from the research team in the poor neighborhoods. They contacted 500 families in Istanbul. Our chief academic adviser. . . and her team briefed us, saying that mothers had taken our messages seriously and they were sitting together with their children. We had promotional spots on television, emphasizing the point that you should watch the program together with your child, and the initial observations seem to indicate that objective was reached."

Research Efforts

"To make a long story short, I would like to summarize our research efforts. We have conducted several formative research studies, questioning children and evaluating their baseline skills, that are very similar in format and in purpose to CTW researchers' activities. So I won't mention them in detail.

"But we conducted some other, more structured research projects. In May of this year, just before our second curriculum seminar, we prepared two entire test shows, half of the material dubbed from CTW and half locally produced. . . . We visited children in preschool institutions or in neighborhoods and recorded with a camera all

their reactions to the sample shows, and we collected data on their attention — visual attention, time looking (at) the screen — with standard 10-second sampling.

"We had prepared a list of questions for both test shows that could be scored zero or one. In other words, at the end, you could get a total score for each child. For the first test show, we had a maximum of 25 questions, for the second, 36 questions. Our sample included five- and six-year-old children, 76 for the first test show, 83 for the second. The sequence was: pretesting, showing the show, and post-testing just after the show was over. In addition to these samples, we included more than 100 children from the ages three to six for segment-comprehension tests. Different segments were shown, and they were questioned about the content, about the events and results of what happened, descriptions, etc. — the standard segment-comprehension tests.

"On a different sample of 31 five-year-old children, using the second test show, we studied retention 24 hours after viewing, giving the same questions again. This is technically long-term retention, although a longer term is possible, like two weeks or a month. In another group, using numeral segments directed to the teaching of numbers to children, we repeated the retention experiment, but the final retention data was to be obtained two weeks later, two weeks after the post-test. This last study was also designed to test the effects of repetitiveness in a show. It's a 22-minute cassette in which some pinball animation segments are given one after another. . . the same recurring format types. In the initial results, we discovered that (such segments) tend to be boring when given one after another in the same cassette, and we get low

attention, about 50 percent, or 40 percent, which is very unusual for the Turkish *Sesame Street*."

Other Early Returns

"A very quick rundown of results: Average visual attention was 89 percent for the first test show, 81 percent for the second, and that was very encouraging for us. It gave us an initial indication that the show was going to be a very popular one and would attract the attention of children; of course, it also was a new (show), and some of these figures may be (inflated) due to that.

"Segments within the shows received different degrees of attention, as expected. Comparisons among different types of production indicated that animation pieces were highest in attention, followed by puppets, live action, and studio segments, although these statements should not be taken in any absolute sense, because we have discovered during our experiments that the change of order of a segment may change the overall level of attention. So, . . . because the most boring segments usually turn out to be the locally produced studio segments, we put them in early positions within a show — after one animation, a Muppet, a live action, we put the most boring segment, and then that is watched very attentively by the children. If you put that segment at the end, it's very likely that the attention score will go down.

"Children not only watched the shows with high levels of attention, but they also learned from them. The increase in the scores between the pretest and post-test was statistically significant. . . . The correlation between the attention score and the gain score (the difference between pretest and post-test) was .19 for test show one and

.36 for test show two, and this moderate relationship is not a surprise for people involved in this area. Visual attention is not a very good measure for predicting the child's gain from a show.

"Segment comprehension turned out to be very good. In all the segments we have studied, very few presented problems, and some of these segments were put there with some educational purpose. For example, we borrowed an animation from CTW. In the segment-selection process, we thought this might be above the level of our children. It's called 'New Ball in Town.' It's a nice piece of animation. There are three balls playing together, accompanied by music; then there is another ball with a different appearance — same ball with different design — and this new ball gradually is approached by another ball from the group, and after negotiations and talking, they start playing together."

Sahin noted that this segment required the child to use analogical reasoning in order to understand the relationship among the balls and transfer that understanding to the interpersonal realm. Then he continued: "To our surprise, none of the children we tested, including three-year-olds, had any difficulty in understanding the meaning of this animation. It's very high on attention — almost 100 percent — and the terms used by children in describing the story, . . . are purely anthropomorphic. They just interpret those balls to be children, or people, playing together. . . ."

Effects of SES

"In our adaptation, we were concerned very much with the effects of socioeconomic level, because in the literature we found that the highest SES children might gain more from the show; that

was not our explicit purpose and would also influence our public statements about the show. For that reason, we gathered data to show. . . acquisition rates of children from different SES. They have different entry levels, but their *gain scores* are not so different, as far as we have found. For example, the mean gain scores on test show one were 4.23 for low-SES children, 4.25 for middle-SES children, and 3.38 for high-SES children. For test show two, corresponding figures were 5.18, 6.69, and 6.09.

"Also we found that on both test shows, older children, six-year-olds — in our country, they're not first-grade children — gain more. (So) there is an age effect as well.

"Now, we have started the summative evaluation. Eight hundred children and households were contacted, and the first phase of the research was completed the first day of our broadcast. After some months, we'll repeat the research, and

we hope to obtain initial results of the summative evaluation by July 1990. We will be pleased to share our findings with the *Sesame Street* researchers around the world."



Psychologist Nail Sabin of Middle East Technical University



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WHAT LIES AHEAD

Lloyd Morrisett, one of the first to appreciate educational television's potential, was instrumental in obtaining funding for Sesame Street.

David Britt, Moderator

Opening the symposium's look into the future, CTW President and Chief Operating Officer David Britt reminded all the participants that educational television for children, though no longer in its infancy, is still far from mature. There are, he noted, other challenges for *Sesame Street* to meet and other age groups for CTW to serve. In fact, staff, teachers, and parents are constantly asking the organization "to expand and extend new educational opportunities for children." In response, he said:

"We plan to launch — soon, I hope — a large-scale, multimedia project for children aged six to nine, the graduates of *Sesame Street*, helping them learn to read with comprehension and to author with coherence. On *Sesame Street*, we'll continue to develop new curriculum areas. You heard this morning about geography and ecology. If you listened carefully, you might have heard this afternoon that we're also expanding

in the areas of pre-science and in race relations in the years to come.

"We'll continue to take *Sesame Street* around the world. Our next stop — next year, we believe — will be the Soviet Union. We've also reached an agreement to do a *Sesame Street* special there which will be broadcast in the Soviet Union and in the United States. Even more exciting will be a series of 65 installments of a half-hour coproduction of the very kind that we've been talking about this afternoon. For the first time, Soviet children will enjoy those intrepid pedagogues, Bert and Ernie, along with their American, Israeli, Arab, Portuguese, Turkish, and other counterparts around the world. It's a big agenda, big enough, I think, that we should probably start now planning the next 20th anniversary symposium. . . in the early 21st century.

"To give us a brief look at the future of television and education, we've

asked Lewis Freedman to join us. His *Sesame Street* credentials go back to the very beginning; he was vice president for programming at WNET when Joan undertook her initial research. He's been a friend and adviser ever since. Lewis Freedman is a masterful — and I guess compulsive is the right adjective — innovator. He gave us *Camera 3* and the *Play of the Week* in the '60s. He created *Hollywood Television Theater* in the early days of public broadcasting. He invented the *Bicentennial Minutes*. And just this summer, he designed a six-hour recreation of the French Revolution which was broadcast on public radio. In between, he has found time to be director of the program fund at the Corporation for Public Broadcasting, and he is now director of the William Benton Broadcast Project at the University of Chicago. Lewis, give us some perspective on where we're going, and where we have been. . . ."



Lewis Freedman, veteran of educational TV (and radio)

Lewis Freedman

A Walk Down Sesame Street

“ I have been invited to take a little walk down *Sesame Street*, a little further than I've ever walked before, and talk a little about the future, about where *Sesame Street* might go after it turns the next corner. Looking back 20 years, it's funny to remember when *Sesame Street* was only a path; now it's a paved road, with sidewalks and landmarks and friends who live on it; an avenue as famous as Broadway and Piccadilly and the Champs Elysee.

“If, indeed, we are about to turn another corner in broadcasting, there is a lot to be learned from the corners we've turned before. I was lucky enough to be in television production when it came of age in the late 1940s. . . . It was television pure and simple then, with no videotape, no film, and all live. Television meant one or two cameras in a studio, an antenna to transmit, and hopefully a television set to receive the picture, with somebody watching.

“The miracle of making the absent present, the invisible visible, was enough to create maximum excitement.

“Nobody knew yet what was possible, what television programs should be. Naturally, we cannibalized other media: put radio actors and radio microphones in front of cameras; showed dance hands playing and dancers dancing, even revived vaude-

ville. Movies were too expensive to buy and, anyway, were made in Hollywood. Television programs had yet to be invented.

“It was a period of extraordinary challenge and invention. Lunch with colleagues was filled with questions: ‘How would you do an opera on television?’ or ‘What kind of children's programs are possible?’ and ‘Can television teach?’ The atmosphere was electric because there were fantastic possibilities, but we hadn't yet discovered them.

“Time passed, and by the end of the '50s, the atmosphere had changed considerably. Television was being devoured by the Commercial Monster, much more voracious than the Cookie Monster, so insatiable that even Sunday morning wasn't considered sacred. Less and less time was available for experiment; more and more time was being used to make money. Like California in 1849, good farm land was being claimed by the gold diggers who followed the gold rush.”

Riding a Tiger

“But something unexpected and wonderful happened: A corner was turned just in time for the cultural revolution of the '60s. Educational television became public television, and we all became born-again broadcasters.

Freed from instructional constraints, the tame horse we were riding turned out to be a tiger. The medium insisted on being used for more ambitious goals and for reaching wider audiences. Exploration could begin again, even in prime time.

"I had the great good fortune of joining a wonderful group of explorers at Channel 13 in New York. Since no network of public television stations existed yet, the local community was both our audience and our subject, and New York in the '60s was turned on. The producers at Channel 13 explored everything from Off Broadway to New Math, from *The Waste Land* to the War on Poverty.

"Production costs were still relatively low, and experiments that failed were not financially fatal. The program budget for one year — the entire programming budget — was \$90,000. That paid for a series of 15 one-hour plays and 30 90-minute live specials.

"It was an 'interesting' time. But certainly the most interesting result of an atmosphere that encouraged exploration and experiment was Joan Cooney's Children's Television Workshop. It could only have taken root and been nurtured where money was not the sole objective, and where producers could lunch on questions like 'What would you produce if . . . ?' and 'I wonder if it's possible. . . ?'"

Now What?

"Looking ahead now, 20 years later, what do we see for *Sesame Street*? Certainly, it will survive, just the way that the Yellow Brick Road has survived the proliferation of superhighways and clover leaves. Certainly, children will follow *Sesame Street* just as they manage to find and follow the path that leads them into fairy-tale forests

deep in the urban sprawl around them.

"But for television producers like the Children's Television Workshop, the problem of creating and reserving a child's broadcasting space will become more and more difficult. Even the new state-of-the-art technologies will work against them.

"As a preschooler, I would love the television screen for three reasons beyond the obvious delights. First, it's almost always just at my height, my eye-level. I don't have to break my neck looking up at adults. I can look them straight in the eye.

"Second, grownups are my size. As an adult, I may be irritated watching a miniature Fred Astaire dancing with a tiny Ginger Rogers, but as a six-year-old, I enjoy the fact that nobody in the set is bigger than me (and most of the time, much smaller).

"Finally, as a preschooler, my third secret reason for loving television would be that I can turn it off whenever I want to. That's something you can't do with most adults. If you even so much as turn away, they're apt to say, 'Come back here, you!'

"But now I watch the screen getting bigger and bigger. What used to be 12 inches became 14, 16, then 23, and tomorrow: HDTV, enormous, across the whole wall, hung high enough to dominate a room. And dominate a child. It's not going to be the old intimate relationship I've had with Bert and Ernie. And how big can the Cookie Monster get before he gets a little scary? I think I'll miss my pocket-size friend Kermit."

Where Will Fantasy Hide?

"When I stand in the middle of *Sesame Street* and look into the future and see such high-definition pictures with such perfectly real details, I wonder where

fantasy is going to hide. I shut my eyes to avoid the truth. And with my eyes shut, I hear the answer.

"Like the mother who is comonitoring *Sesame Street* while she's peeling potatoes in the kitchen, like the preschool child who's playing with toys with his back turned to the TV set, I find I can listen to my *Sesame Street* friends with great pleasure, now that I know what they look like. The sound of *Sesame Street* is what I hear in the future. What startles me and pleases me is not the new state-of-the-art technologies, but a technology so old that it would be new to explore it again.

"Radio and audiotape are the great invisible mass media in America today. After 40 years in the shadow of television, after 40 years while television programming descended into violence and banality, ignoring its real possibilities, radio is emerging with a steadily growing audience.

"Radio is a great medium for children. It's intimate, small enough to take to bed after the lights are out, and personal because you can listen privately on a headset.

"Radio uses your imagination. It can carry you to the stars faster than a spaceship, or it can bring you back to ancient Egypt and then take you into the 25th century. The carfare is next to nothing.

"Radio can create a world of stories, and because air time is cheap, it can take its time, make *Scheherazade* look rushed.

"*Sesame Street* on radio or audiotape can explore history, or geography, or the cosmos, or mythology, or science.

"Best of all, radio can surround you with friends, old and new friends.

"With the sounds of *Sesame Street*, Kermit can guide me through the

woodlands and swamps to meet his friends for a lesson in ecology. Big Bird can fly with me around the world to discover what's beyond the most distant horizon. And Miss Piggy will open up the world of music and theater as only an *artiste* can do.

"Bert, Ernie, I look forward to hearing from you.

"Kermit, don't forget to invite me, in 20 years, to the birthday of the Children's Radio Workshop. Happy birthday, everybody."

David Britt:

"Lewis, as someone who was brought up on radio, that's the most comforting picture of the future I've ever heard. I also want to announce that there will be a budget meeting of our producers right after this symposium is over. I think I can see some cost cuts. I think it was Vince Lombardi who said that the future is *now*. Lewis is the first one who has said that the future is *then*.

"Lloyd Morrisett is a wonderful choice to discuss the future of education and television. He is knowledgeable on both topics, and he is relentlessly rigorous at focusing us all on the challenges that lie ahead. Lloyd, while vice president of the Carnegie Corporation in 1968, commissioned the research and proposal that resulted in *Sesame Street*. He was the architect and, in fact, the general contractor of the initial funding of that series. He's been chairman of the Board of the Trustees of the Workshop since its inception, and he became president of the Markle Foundation in 1969. In that role, he has made Markle the nation's premier force in policy research in communications and media. Lloyd, let's look at your version of the future."

Lloyd Morrisett

Challenges Met and to Be Met

“ I am going to take a look at the future, or try to, but also I’m going to step back a little bit and assess the past and the present. First I’d like to recall for you the conditions in the late 1960s when *Sesame Street* was born. . . . We had a President who had a belief in education, Lyndon Johnson. We had had the Civil Rights Act, signed in 1964, and there was a generally felt crisis in education. All of these events went together. There was a concern about disadvantaged children who were entering school at a loss and falling further and further behind. And there was the realization that this was an extreme handicap, not only to the individual child but to the nation as a whole; we were losing talent, regularly. There was a shortage of preschool teachers and classrooms, and of course we were in the midst of Viet Nam and the Cold War.

“This crisis situation was very important in terms of our ability to bring *Sesame Street* about, but also history hangs by very slender threads. As many of you know, the origin of *Sesame Street* was in a dinner party at Joan Cooney’s home, and the three people in conversation after dinner were Lewis, Joan, and myself. In the course of that conversation I said something like, ‘Well, do you think television can be used to teach young children?’ Time stopped. What if Joan had looked at me

and said, ‘Children? Television? Read my lips!’? But she didn’t. Instead, her innate qualities of intellectual curiosity and risk-taking and leadership came out. She said, ‘I don’t know, but I’d like to talk about it.’ That’s really how it all started. So it was a very slender thread. . . . Who knows what would have happened if different words had come out at that point?

“Our initial goals for *Sesame Street*. . . were quite limited. They were heavily cognitive; we believed we had to show whether television could teach anything. That was the question: Could it teach anything? None of us had any notion that we would get past the first experimental season. The early success, however, led us to rather quickly broaden the vision of what *Sesame Street* and children’s television might become.”

The Broader Vision

“That broader vision developed gradually; it wasn’t articulated clearly in the beginning. It was something like this: We believed television could be an element in creating a universally available, educationally supportive environment in which schools could do their jobs, and in which children would have the opportunity to develop to the limits of their capacity. The practical applications of that vision would be that:

- "There would be appropriate programming for children at all times that they would want to watch, in a variety and quality that were superior and appropriate to their condition.
- "We would be concerned with those children who view late at night — the audience figures show that there are surprising numbers of four-, five-, and six-year-old children who view after 10 p.m. . . .
- "We would be concerned not only with the educational goals and the entertainment goals that we have tried to incorporate within *Sesame Street*, but we would also be concerned with other kinds of programs, developing more toward aesthetic, artistic, and creative interests, and the whole range of activity that we would like to see children develop in.

"Well, where are we now, after 20 years? *Sesame Street* has come further than any of us could have possibly dreamed, but the vision hasn't been realized. Television is accepted, but in some ways, it is used less for children now than in 1970. *Captain Kangaroo* is gone. There is *no daily program for children* on the networks. . . . Society has not valued the education of children — or, indeed, education — as we believed it might and should. There has been no national political leadership following the greatness of Lyndon Johnson's vision."

Changing Challenges

"Children's television on PBS has come up against limits of time. Not because PBS has not been a wonderful distribution system for children's television — it's been magnificent — but the two or

three hours that are available really press against the limits of PBS's other responsibilities: prime-time programming for adults, in-school programming, contracted educational programming. It will not be possible on PBS as we know it to have many — if any — more hours of children's television than we now have.

"The audience is more heterogeneous as the numbers of Hispanic and Asian children have grown. This creates additional opportunities as well as additional difficulties for children's television programming and points again to the fact that we really can't expect one program, *Sesame Street*, to do the whole job for preschool education. Other things are needed.

"Now, all of those assessments sound very pessimistic, and indeed they are, but there have been some significant gains. Programming techniques have improved and become more sophisticated. We have the influence in television production, and in distribution, of microchips and computers. Editing is improved; the techniques that you see on television are more easily carried out. Animation techniques have improved because of the use of computers and, in some cases, have grown cheaper. So that there are some distinct advances in programming.

"On the other hand, the distribution system has become more fragmented without increasing the range or numbers of choices for children. This is a case where I think we, as a society, are confronted by two (conflicting) goals: We would like to increase the range of personal choice for everyone, but at the same time we want the children to choose wisely and increasing the options probably reduces the chances they will do so. How we deal with this in the future, I don't know. I don't think there's any going back; the range

of choice is likely to continue to increase. So, how to get the programs to the children that can benefit from them is a real problem."

The Research Picture

"Research has shown very solid gains. I think that is clearly demonstrated by what we have heard today. . . . We know much more about the effects of children's television and how they are produced. I'm reminded: I think it was probably the fall of 1966 or the spring of 1967, Joan and I were concerned about putting the initial team together to be what became the Children's Television Workshop. And we agreed that two very important roles to be filled were an academic adviser and somebody in charge of research.

"Now we were extremely fortunate in that Gerry Lesser had become a serious psychologist, giving up his dream of becoming the replacement to Bob Cousy, and he also had had some experience with commercial television at that time. We were also very fortunate that we found Ed Palmer, who was then out in Oregon, far removed from New York, but he had been conducting research on television and its measurement. The population from which we had to draw those people, despite our great good fortune, was very small. Now — I look out at all of the future Ed Palmers and Gerry Lessers in this room — we would have no trouble at all. That's an amazing and unpredicted consequence: The number of people who have engaged in research on children's television, and the contributions they've made, has been a very gratifying thing to see.

"A final assessment of the present is that an international community has grown up around *Sesame Street*, research on *Sesame Street*, and the uses

of *Sesame Street*. That has been astounding and completely unexpected. We had no idea whatsoever that *Sesame Street* would succeed in the United States, much less be beneficial to other cultures and other countries."

Now, the Future

"Given this assessment — some gains, some places where we're merely holding our own, and some losses — what is the future of children's television? I would put this to you in a series of challenges. The overall challenge, of course, is to realize the vision. It's clear that the market — the television market as we know it in the United States — will not support the kind of children's programming that we want to produce, not the variety, not the quality, not the time, not the distribution system. So, how can that possibly occur?

"The first challenge is to somehow overcome the present limits of time and distribution. . . . When television was born, it was only by an afterthought that any frequencies were reserved for what was called educational television. . . . And those frequencies turned out to be in the UHF band. That hampered the development of PBS for years. Only with the advent of cable has PBS overcome the limitation that was built in at the very beginning.

"We had a second opportunity at the time that cable was introduced. People then seized on public access as what was necessary; it wasn't education. The notion was that having public access channels would make space available on the broadcasting system. . . . for the public good. . . . Public access has proven — I won't say a failure, but certainly it has not been a success. It is very little used in many areas and is underfunded everywhere."

New Opportunities

"We're very likely to have at least two more opportunities in the next 50 years to make up for this problem. . . . One will be, I think, when fiber optic cable is introduced into the home with many more channels. That is likely to come about through some amalgamation of our present cable system and the telephone system. . . . Sometime in the next 25 years, there are likely to be fiber optic cables into the home, and when that bargain is made, someone needs to step up and say, 'Education.' And someone needs to say there should be, I don't know, a dollar per home going to pay for it. Those two things: education and a means to pay for it.

"A second opportunity, which could come before or after that one, is likely

to come with direct-broadcast satellite transmission. It doesn't seem important now. On the other hand, it's beginning in England, and even before the satellite has started broadcasting, they've sold 24,000 receivers in London. Not many, but they've sold those *before* there's any programming on the air.

"The second challenge is to produce material to meet the needs of small and diverse audiences at an acceptable cost. It's quite clear that there is a place for general broadcast children's television. *Sesame Street* has proven that, and it meets the needs of much of its audience very well. But there are groups of children, even preschool children, who have somewhat different needs than can be met by a single program. They will sometimes be small groups, perhaps they're handicapped or gifted



From left: ETS Vice Presidents Samuel Messick and Ernest Anastasio

children, perhaps they're ethnically diverse, perhaps they have different language problems. How to meet the needs of those children at an acceptable cost and with a quality that we can be proud of is something we don't know how to do now. . . . I would not like, in another 20 years, to say that we haven't done something to meet that problem."

Integrated Technologies

"A third challenge will be effectively to use the new integrated technologies that are perhaps five years down the line as far as most of us are concerned. Television and computers are merging. Whether it will be one screen in the home that is digitalized and of a much higher resolution, or whether there will be multiple screens, I don't know. But it's clear that the television and the computer are coming ever closer together. Now, for example, because of microchips, you can buy this year a set that will put up a second channel on the same screen as the first channel. So you can watch two programs at the same time.

"There are other experimental devices that allow someone to interact with a program. They're rudimentary at this point, but in five or 10 years, they're not going to be rudimentary. It's going to be possible to interact with both broadcast programming and programming that is stored within the set and modified according to what the child or the person receiving the program wants to do. We have no idea how to use that effectively. We think that interactivity is going to be a boon, that it will engage the learner, be more motivating, provide new educational opportunities, but we need to learn how to use that technology, and we don't know how at present. . . .

"Higher resolution, better color. That will open possibilities for aesthetic appreciation that are beyond those that we have at present. Again, there is another challenge to overcome. . . . To harness the research, the formative and evaluative research, with the creativity of production in an appropriate means for children is one of the challenges that all of us will face in the next 10 years."

Money and Talent

"Of course, none of these challenges will be met unless we find the resources, resources of two kinds: money and talent. Money: I think we can expect that there will be a continued subvention by the government in various ways. . . . Perhaps there is going to be a national endowment for children's television; David Britt has been active in getting this legislation introduced. . . . There is likely to be continued funding from the National Science Foundation for various projects, from the Department of Education and other areas. It will not be enough to realize the vision that I talked about. Unless we find private means, either through subscription or through some dedicated portion of the cost of a distribution system, there will not be enough money. But that, I think, is still an opportunity that can be seized, and I'm optimistic that if someone stands up at the right time, we can be included in that bargain.

"Talent is much less of a problem. I'm just amazed at the talent that is available — in television, in the film area, in the research area — and that is willing to devote itself to these issues if there are proper outlets. *Sesame Street* has enormously benefited by the volunteer efforts of all sorts of people, as well as the dedicated staff we've

been able to put together.

"There is one issue here that will not go away, though, and because this is a research conference, I want to mention it to you particularly: The marrying of the production capacity with the research interest is a very difficult job. Production people, creative people talk one kind of language; they're intuitive, they're creative, they're interested in getting something on the air. Research people tend to be academic; they tend to want to get down to the details and really understand what's going on before they reach a conclusion.

"Putting those two things together in a situation where production has to be gotten on the air is a real issue, and the

question I will leave with you is that, as you go about your research, just from time to time, think to yourself: 'If I were asked what to do, what would I say on the basis of what I've seen today?' Many times you won't have anything to say, but occasionally something will come to you and you'll say, 'Well, if I were asked, I would be able to say, ...' And that's a real contribution to marrying the creative people with the research people, the marriage on which *Sesame Street* stands and on which its success is primarily based.

"I hope I have not sounded too pessimistic. I'm very optimistic about the future, but it really depends upon all of us to be there at the right time."



CLOSING

Joan Ganz Cooney conceived the Sesame Street mix of education and entertainment, founded CTW, and has led it for more than 20 years.

David Britt, Moderator

"Joan Cooney absolutely needs no introduction, so I'll keep mine fairly short. She is the reason we are here today, as we know well. It was — and it is — her vision, her energy, and her talent for recognizing and motivating talent that created *Sesame Street* and sustains it today as the world's largest preschool. That same vision, energy, and talent created the Workshop itself and has developed it into a vibrant, successful educational institution that will continue to serve children around the world in the decades, *at least* the decades, ahead. Perhaps most of all, she has made it possible for a lot of us to make a living having more fun than anybody else in the world. And on that note, I would like to ask her to come up and say a few words. . . ."

Joan Ganz Cooney
20 Down, at Least 20 to Go

“**T**hank you. Actually, I should *just say* thank you, because between Lewis Freedman and Lloyd Morrisett, I think we see the past and see the present and glimpse the future. And I thank them very much for really good presentations, very inspiring to me. I also want to express thanks on behalf of all of us to Greg Anrig and ETS for hosting this wonderful symposium celebrating the 20th birthday of *Sesame Street*.

“I want to thank, too, all the people within CTW, and also outside CTW, who have worked together in the research and evaluation of *Sesame Street*, both here and abroad, and who proved that academic researchers and television producers were not actual enemies, but rather potential and actual allies. Lloyd is certainly correct about the differences, but I think we know now that there's an important alliance between the two to be had, if one works at it.

“Even many of the people who work at CTW today — who have come in since the beginning — I think are unaware of how rigorously experimental *Sesame Street*'s first broadcast seasons were, and the 18 months that preceded its birth. In particular, most have forgotten, if they ever knew, the degree to which I and, of course, Gerry Lesser and even the more optimistic Ed Palmer held our collective breath as we

brought together in a mix — unforgettable mix — in-house producers, in-house researchers, ETS researchers, and other academics, and then we sat there and watched as the worst happened. I well remember, as some of you will, at one of the early seminars, producer Sam Gibbon yelling out at an academic, ‘What have you got? Speak English! We’ve got a television show to produce here.’

“Well, after a while, we began breathing a little easier as the interaction *did* begin to happen, without the earlier outbursts. However, after seven or eight months, a new concern arose. I remember, one day, walking by Sam Gibbon and a couple of other producers talking with Ed Palmer, our head of research. And Sam Gibbon was saying, ‘Ed, I remember Shep White said that this whole year in cognitive development . . . for acquiring reasoning skills . . . piece of animation . . . very complicated concept . . . etc. etc.’ And Ed answering with . . . kind of holding his annoyance in, but not doing a very good job at it, saying, ‘Sam, Sam, why don’t you lighten up? We’re trying to produce a television show. . . .’ And so it went. In our experience, it was so successful you couldn’t tell the players without a blueprint.

“So the experiment did produce some consequences, but in terms of proving that educational research and

creative intuition could gain a great deal from each other, *Sesame Street* was a landmark. I believe the full impact of what we accomplished, as Lloyd has indicated, has yet to be felt, and I hope that the next decade will see the lessons from *Sesame Street* adapted on a much wider scale to aid in the educational crisis this country faces.

"I want to end by thanking all of you who came from around the world and from around the country to be with us today. In particular, and very sentimen-

tally, Lewis Freedman, who held forth on the great potential of television as a teacher at the dinner party with Lloyd and me so many years ago. And of course, Lewis was my boss at Channel 13 while I was doing the 1966 study for Carnegie, and so it seems fitting that he would come in with us today. Again, I want to thank ETS and all of you for all of your support, help, the wonderful results we've had so far. But we've got at least 20 years to go. Thank you very much."



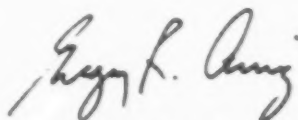
ETS President Anrig and research psychologist Richard T. Murphy, ETS coordinator of the symposium

EPILOGUE

From the beginning, more than 20 years ago, I have marveled at the genius of *Sesame Street*. It is both entertaining and educational, and it holds the interest of its young target audience and of countless adults as well. Although I was not at ETS when Sam Messick, Ernie Anastasio, and their colleagues met with Children's Television Workshop representatives to discuss firmly rooting the program in sound research — or when Sam Ball and Gerry Bogatz completed their evaluation studies — I was an active educator, and I followed the work of CTW with admiration and pleasure. Now that I am at ETS, I share the pride of my colleagues in those studies, which proved to be milestones in the development not only of educational television but of educational program evaluation itself.

Our pride is, I believe, fully warranted — witness the many citations of "Ball and Bogatz" by speakers at the Research Symposium reported in these pages. Still, it was more than simple pride in ETS's supporting role in the development of *Sesame Street* that prompted us to approach CTW about cooperatively staging this symposium. Television has been the target of so much criticism — and speculation — regarding its negative impact on children that a look at the positive side seemed long overdue, and *Sesame Street's* 20th anniversary seemed to provide a logical and rare opportunity to take such a look.

And it was a rich experience. Speaker after speaker cited research that confirms the solid contributions of this, educational television's flagship series, to the learning of children across the United States and throughout the world. Furthermore, as we hoped, there were frequent calls for additional research into specific aspects of *Sesame Street's* impact on children and into different uses of the newer video technology in the service of education. There is no doubt that television and video devices will be part of the emerging educational scene. Thus, this symposium was both a celebration of the past and a clarion call to a future of endless experimentation and innovation in education. It was exhilarating to be part of it.



Gregory R. Anrig

President
Educational Testing Service

APPENDIX I: SPECIAL AWARDS

Editor's note: During the reception that followed the final session and preceded the closing dinner, ETS President Anrig read citations honoring four Sesame Street pioneers and presented special ETS awards to them. The texts of the citations follow.

To: Gerald S. Lesser and Edward L. Palmer

From its inception, *Sesame Street* was conceived as an experimental research enterprise in which artistic, educational, and research components would function in inseparable counterpoint to one another. This required a genuine collaboration between television producers and artists on the one hand and educational advisers and researchers on the other. It required the former to think in terms of teaching as well as entertainment and the latter to think in terms of dynamic television delivery and not lectern delivery. Gerry Lesser, as chairman of the Board of Advisers, and Ed Palmer, as (CTW) vice president for research, were instrumental in making this unlikely and ambitious conception a powerful reality. For their role in institutionalizing an ongoing research basis for program development and evaluation and their attendant contributions to the effectiveness and educational legitimacy of *Sesame Street*, Educational Testing Service is pleased to present these special awards to Gerald S. Lesser and Edward L. Palmer.

To: Joan Ganz Cooney and Lloyd N. Morrisett

It is inevitable, in celebrating the 20th anniversary of *Sesame Street*, that the names of Joan Cooney and Lloyd Morrisett come to mind together. From the outset, they shared the seminal vision that the technology of television and the art of entertainment could be combined, with the guidance of educational research, to pursue important pedagogical goals for young children. In their interplay over the years, they provided the leadership, facilitated the funding, fostered the artistic creativity, probed the production problems, challenged the instructional preconceptions, evaluated the program implications of research evidence, and confronted anything else that was necessary to bring this splendid vision to fruition. On this 20th anniversary occasion, Educational Testing Service is pleased to present to Joan Ganz Cooney and Lloyd N. Morrisett these special awards in recognition of their accomplishments in integrating entertainment and learning and, most of all, in commemoration of their contributions, through *Sesame Street*, to educating the children of the world.

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